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62.09 shed. 1884

CAPITAL

\$ 200.000.

Catalogue,

1908

FANCHER CREEK NURSERIES

INCORPORATED

GEORGE C. ROEDING

PRES. AND MANAGER

FRESNO, CAL.
U.S.A

WONDERFUL
POMEGRANATE

H. Singer.

A Catalogue, describing accurately
a large and varied stock of Fruit
and Forest Trees, Vines and Shrubs,
Palms and Roses, adapted to the
soils of the Pacific Coast, Mexico,
South America, the Philippines, the
Islands of the Pacific and Australia

Paid-up Capital, \$200,000.00

Fancher Creek Nurseries

Incorporated

Geo. C. Roeding

President and Manager

Telegraph, Telephone, Postoffice and Express Address
Fresno, Fresno County, California, U. S. A

Cable Address { Western Union Code
"Calimyrna" { Nurserymen's Telegraphic Code

The Roeding Place, 640 acres . . . 6 miles east of Fresno
Propagating Grounds, 130 acres . . . 2½ miles N.W. of Fresno
General Fruit Tree Nursery, 320 acres 18 miles east of Fresno
Citrus Orchard and Nursery, 100 acres Exeter, Tulare Co., Cal



The Roeding Home Place (of 640 Acres) all in Fruits and Vines.

1 Calimyrna (Smyrna) Fig Orchard.

2 Harvesting the Olive Crop.

3 Residence and Grounds.

4 Scene in the Orange Grove.

5 Winter Scene Thompson's Seedless Grape Vineyard.

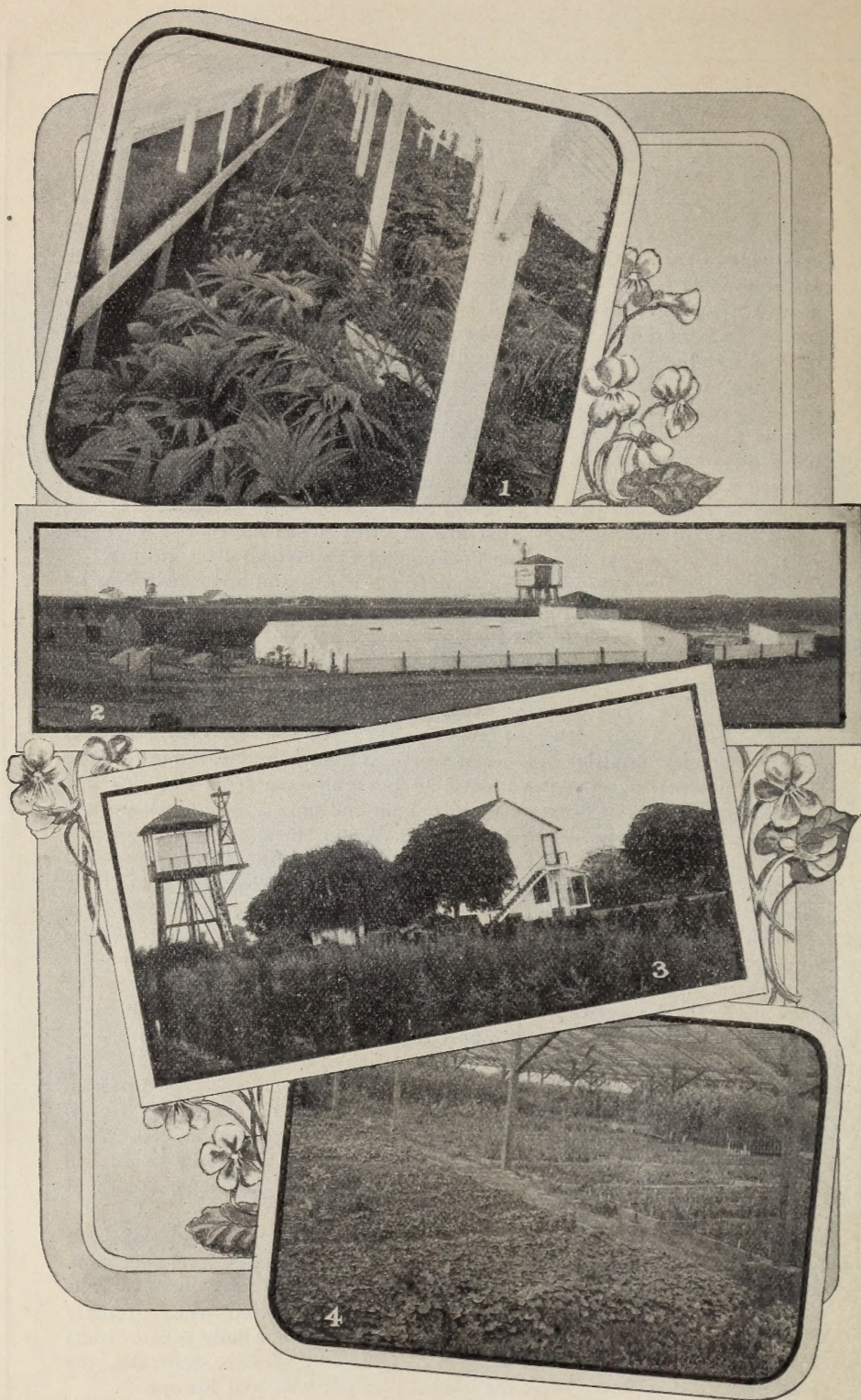
THE FOREWORD

In presenting a greatly enlarged and more complete edition of our catalogue to the horticultural interests of the country, we are not unmindful of the support received and the many warm friends from both at home and abroad, who have extended the helping hand in the way of a healthy patronage. Indeed, it has ever been our policy to keep in touch with the onward trend of California's horticultural development; to that end we have increased our facilities for the production of what must now be considered the most complete and varied assortment of fruit and forest trees, vines and shrubs, palms and roses to be found on this Coast. With this advance it has always been our aim to enhance the practical value of our catalogues. Feeling a direct interest in the basic industry of California, we have ever striven to foster and protect it along lines calculated to remove error and avoid many of the mistakes, that are so often a sad experience to those new to the somewhat strenuous vocation of commercial fruit culture.

No country in the world can show the horticultural advances made by California. The pioneers of its early history were allured to her mountains and valleys in the quest of the precious yellow metal, never dreaming that her soil and climatic conditions offered greater riches than have ever been extracted by the pick and the shovel. Instead of being the Golden State she is really the Fruit State, not only of Uncle Sam's domains, but of the world at large. During the past few years the miners have delved out of her mountains something like \$15,000,000 worth of gold annually, while the man with the hoe delving in orchard and field has extracted from the rich and fertile soil upwards of \$50,000,000 per annum and only a very small portion of her vast domain has yet been exploited. The noblest occupation of man has made of California the first State of the Union in the production of peaches, prunes, plums, pears, apricots, grapes, oranges, lemons, grape fruit, olives, figs, nuts and cherries. Of some of these she produces more than all the remainder of the States combined; of others she is the only producer; of still others she supplies the entire American market and has an immense surplus for export. With this evolution of our horticultural growth the Fancher Creek Nurseries have ever kept pace and stand ready at all times to accelerate its advance to still higher flights of wealth and prosperity.

Taking these facts into consideration, it is not at all surprising that our correspondence from the South American countries, from our Island possessions, Australia and even from Europe, should also be a growing factor. Indeed, so pronounced has been the demand for information concerning California horticultural practice, that we have found it necessary to publish an abridged edition of our catalogue in the Spanish language, copies of which are to be had on application.

Long experience has enabled us to handle trees and plants along lines calculated to insure their arrival at points of destination in good condition. Single shipments from our establishment have at time been three months in transit and still arrived in good shape, growing well when properly handled and planted out. On the strength of this we cordially solicit orders from planters in the South American States, Old Mexico, Australia, the Philippines, Cuba, Porto Rico, the islands of the Pacific and Europe.



Propagating Grounds comprising 130 Acres in Growing Nursery Stock.

- 1 Scene in one of our Greenhouses. 2 Exterior View of Propagating Houses and Grounds.
 3 Ranch House and Ornamental Stock. 4 Scene in Lath House.

TO INTENDING PURCHASERS

THINGS TO OBSERVE.

1. All orders should be legibly written on a separate sheet of paper, and not mixed up with the body of the letter.

2. In ordering please state whether substitution will be permitted, as we feel at liberty when no instructions accompany the order to replace with other sorts as nearly similar as possible.

3. A few words of explanation of the fore-going, is in our opinion advisable, for customers on some occasions have made very serious objections to our exercising this privilege when it was really our desire to serve them to the best of our ability. It must be borne in mind that nursery stock must be grown from two to three years in advance, and it is largely a matter of guess-work on our part, what varieties will be in demand. Years of experience has taught us to lay down certain defined rules, and of standard commercial sorts of fruit trees our aim is to grow sufficient stock to meet ordinary requirements from year to year. It often happens that a variety of which we grow only a limited quantity is exhausted early in the season, and as it may be impossible to secure it from other nurseries, it is either necessary to cancel the order or substitute with another kind, which is similar. In nearly all cases when we exercise our judgment, we do not hesitate to say that we believe our customers will approve of our desire to please them.

4. Our packing and labeling is as perfect as possible, and we charge for the same only to cover the cost of material. All goods are delivered at the railway or express office free of charge.

4. State distinctly how you wish us to ship—by freight or express; also designate the route, otherwise we use our own discretion in forwarding.

5. After delivering to the carriers we cannot hold ourselves responsible for any loss or injury to trees or plants after they have been carefully packed and shipped; but we will do everything in our power if any loss should occur, for the protection and recovery of our customer's property.

6. Orders to be sent by express, C. O. D. will be filled, provided one-half of the amount is sent with the order.

7. If any mistakes are made in filling orders, we will cheerfully rectify the same, but must respectfully request our customers to notify us at once; or, at the most within ten days after receipt of the goods.

8. Orders from unknown correspondents must be accompanied by a remittance or satisfactory reference.

9. We uniformly tie our trees in bunches of 10, and grape vines in bundles of 50; and we suggest to our patrons to make their orders for assortments as far as possible in multiples of these numbers.

10. Articles mentioned in the following list will be furnished at prices named as

follows: 5 at the 10 rate; 50 at the 100 rate; 500 or more at the 1000 rate. Less than 5 of a variety at the single rate. This does not mean, as an illustration, that 10 pears, 10 apples, 10 plums, 10 nectarines would be charged at the 100 rate. To secure this rate it will be necessary to order 50 trees of one sort.

ARTICLES BY MAIL.

For the convenience of those who can not be reached by railroad or express, packages of small trees, if in stock, not exceeding four pounds in weight, can be forwarded by mail, such articles to be charged at single rates, postage additional.

PRICE LIST

For the convenience of patrons we also publish annually a price list of all the Fruit and Forest Trees, Shrubs and Vines, Palms and Roses enumerated in this catalogue. When ordering, always consult this for prices.

GUARANTEE OF GENUINENESS

In growing and furnishing all nursery stock, every care and precaution is exercised to have it true to name; still with all of our care, mistakes are liable to be made, but we hold ourselves in readiness, on proper proof, to replace all stock that may prove untrue to label, free of charge, or to refund the amount paid. This statement is due notice to purchasers of nursery stock of the extent of our liability after the same has been accepted by the buyer.

A NOTE OF WARNING

Those only who can show proper credentials are authorized to solicit orders for us. We wish to call special attention to this notice, as we know it has heretofore been the practice of unprincipled persons, to procure the catalogues of prominent nurseries, and take orders in their names, which they fill from poor stock bought elsewhere. If our patrons will notify us of any person whom they have reason to believe is not a regularly appointed agent, we shall consider it a favor.

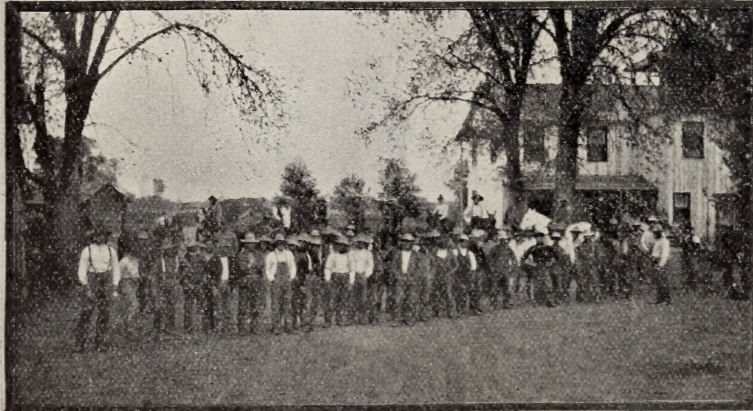
Please remember to write your name, possible; also give your nearest express office and railway station, or if on a stage route send us special directions, giving us route send us special directions, giving us the name of the transportation company delivering the goods. Orders for export to old Mexico, the Hawaiian Islands, Cuba and South American points should give in addition to the above, the steamship routes by which their orders are to be shipped.

All remittances should be by postoffice money order, registered letter, express order or bank draft.

Address all correspondence,

FANCHER CREEK NURSERIES (Inc.)

GEO. C. ROEDING, Pres. and Manager,
FRESNO, CAL.



General Fruit Tree Nursery, comprising 320 Acres in Growing Nursery Stock.

- | | |
|---|--|
| 1 One-Year-Old Pear Trees ready for Market. | 2 Peach Trees three Months old from the Bud. |
| 3 Crew of Men ready for Work. | 4 Irrigating Young Peach Seedlings. |

SOMEWHAT PERSONAL IN TONE

In many respects, this edition of our catalogue is an improvement over its predecessors. Not only is it larger, but its illustrations are better and its text more accurate. The design has been to serve all who contemplate planting and feel the need of securing only that which is best and true-to-name in the way of trees and plants, by making the descriptive matter not only full, clear and accurate, but to supplement the same with cultural directions, and practical suggestions calculated to be of service to growers and plant lovers everywhere. If our efforts in this direction shall be as well received as our last catalogue, we will be amply rewarded.

In December, 1902, this establishment was incorporated under the laws of the State of California, with a paid-up capital of \$200,000, making it one of the largest and strongest nursery establishments west of the Missouri River.

THE ROEDING PLACE.

This consists of a section of land, containing something over 600 acres and located six miles east of Fresno. This place is the nucleus from which our nurseries came into existence. The name Fancher Creek is derived from an old creek bed which served as the first canal in the early seventies for conveying water to the, at that time, arid plains of Fresno. It is this old and famous water course which helped to lay a foundation for Fresno's wonderful prosperity.

When the nurseries were first contemplated in 1883 by the writer's father, the gradual improvement of the tract was also given some consideration. With the planting of the first nursery stock in the spring of 1884, steps were taken to lay out avenues and a general plan for the development of the place along broad lines was in prospect. It is a well known fact among all nurserymen that it is of the utmost importance to have new ground to secure trees from disease and of the best quality. The necessity of following this policy was the cause of our seeking new locations, bringing into existence our propagating department and ornamental nursery of 130 acres, $2\frac{1}{2}$ miles northwest of Fresno; our general nursery for growing all classes of deciduous stock

of 320 acres, 18 miles east of Fresno, and our citrus orchard, and nurseries of 100 acres near Exeter, Tulare County, in the great thermal belt along the foot hills.

With the finding of new locations for our nurseries, the home place was planted to orchards and vineyards. The last vestige of the original nursery was removed in the year 1905. The entire tract has been brought to the highest state of perfection, by the thorough care in cultivation, pruning and the many other details requiring close attention in order to bring about the best results.

The olive and orange groves, the experimental plots; the great vineyard of 250 acres, the largest in the San Joaquin Valley on resistant roots; the ornamental ground, planted with many rare beautiful shrubs and trees; the famous Smyrna fig orchard which has made for itself a world wide reputation as being the first place outside of Smyrna in which the genuine fig of commerce was first perfected and produced, have all combined to make a great reputation for our first nursery now known as the Roeding Place.

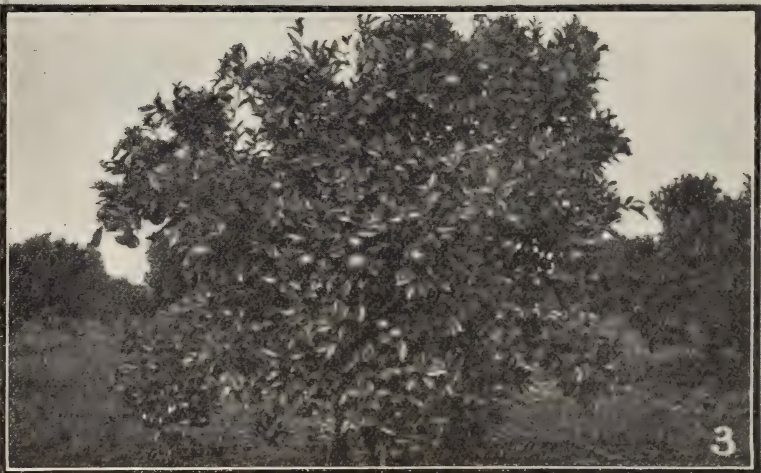
ORNAMENTAL NURSERY AND PROPAGATING ESTABLISHMENT

These are located on a tract of 130 acres, a short distance from Fresno, and it is here that our palms, evergreen shrubs and trees are grown, the soil having been found well adapted to the development of this class of stock. Our propagating department has been increased from time to time by the addition of new greenhouses, lath-houses, and glass-sash, until we now have an area of 60,000 square feet under cover.

The systematic arrangement of the endless varieties of young plants, in pots, is always commented on by visitors inspecting this important branch of our nurseries.

DECIDUOUS NURSERY

This is located in the Kings River Bottom, about 18 miles east of Fresno, and covers an area of 320 acres. Our first nursery was started here in the year 1904 and consisted of 120 acres. The magnificent growth of the trees, the fine fibrous root system on this deep sedimentary soil encouraged us to secure 200 acres immediately adjoining our first location. The many complimentary letters from our pleased customers all over the country about the superior quality of our trees, is, we believe, sufficient evidence of our having made



The Roeding & Wood Citrus Nurseries at Exeter in the Thermal Belt.

1 Two-Year-Old Washington Navel Buds with Fruit.

2 A Section of the Citrus Nursery.

3 Five-Year-Old Washington Navel Orange Tree

4 Buildings and Three-Year-Old Grove.

a wise selection in obtaining this piece of land for the growing of our deciduous nursery stock. Few of our patrons can appreciate the number of men required to carry on a project as extensive as this is. From 100 to 150 men are employed during the winter months on this place; many of them are experts in their particular line, for the work they are engaged in must be done expeditiously and thoroughly for a good stand of buds, grafts, and cuttings must be secured to make the financial results show up on the right side of the ledger.

During the growing season, men who are keen observers walk through each row of trees and vines in the early summer months and again in the fall, for the purpose of finding any mixtures. The habit of growth or the shape of a leaf, will often distinguish one variety from another, and should a mixture be found, the tree or vine is immediately cut out. This then, briefly outlines some of the work in a large nursery, and indicates the care exercised to have our stock true to name.

CITRUS NURSERY.

This nursery was established in 1898, the location chosen for it was in the then new thermal belt near Exeter, Tulare County, in the lower foot-hills. Its inception was brought about by the difficulty in securing many varieties of citrus trees from nurseries, who made a specialty of this particular line, but who grew only a limited assortment, and in consequence could not fill our orders. It is in this one respect that the nursery business differs from many other commercial pursuits. Every large nursery in order to carry on its business with a view of building it up on a firm footing, finally finds it is forced to grow practically everything it catalogues, either under its own supervision or indirectly by associating with others, who are competent and who take enough personal interest and pride in the business to grow high grade stock. The very fact that a nurseryman practically has the growing of his stock under his control, gives him a confidence in dealing with his customers, which he never can have in trees purchased from other growers. A conscientious nurseryman must ever be on the alert for he is at all times forcibly impressed with the fact that two or three years must elapse before his trees bear fruit, and tell their own story. To have trees true to name is then, so to speak, the desideratum of every nurseryman who desires to continue in business and merit the confidence of his patrons.

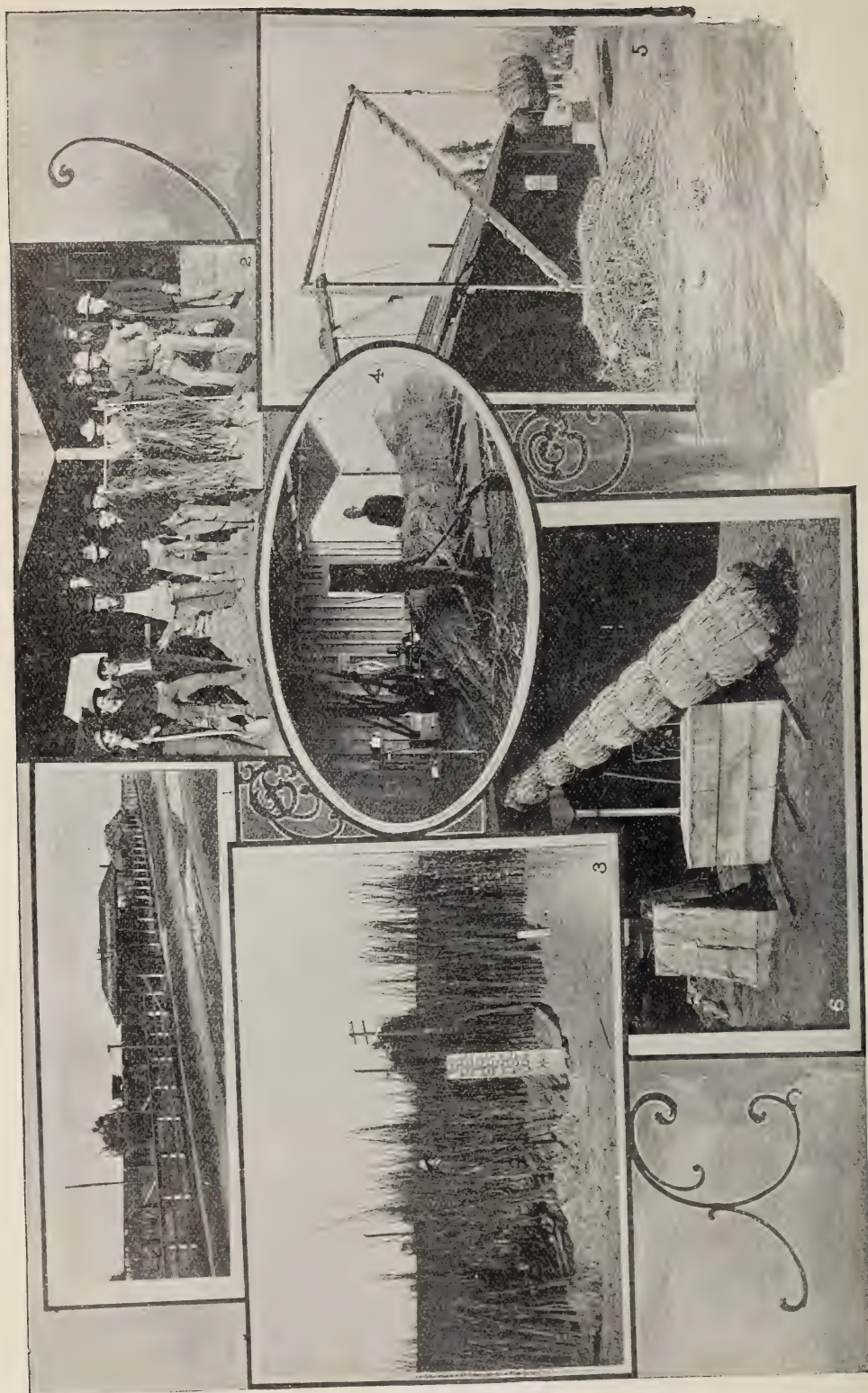
Our first citrus nursery, consisting of eight acres, was placed in charge of Mr. W. R. Wood, a thoroughly experienced and successful citrus nurseryman and orange grower. It has been largely due to his painstaking care, close application, that the nurseries in Exeter have made such rapid

strides. The accumulation of more land, orange orchards, pumping plants, etc., caused us to bring our interests under one head, and in order to accomplish this, we incorporated under the firm name of the Roeding and Wood Nursery Co. From our small beginning, we have now 320 acres of land adapted to growing citrus trees, 100 acres of which are already planted to citrus orchards, and nursery stock. The advantage of being in the position to draw on these nurseries for all varieties we catalogue, must be apparent to anyone desirous of purchasing this class of stock.

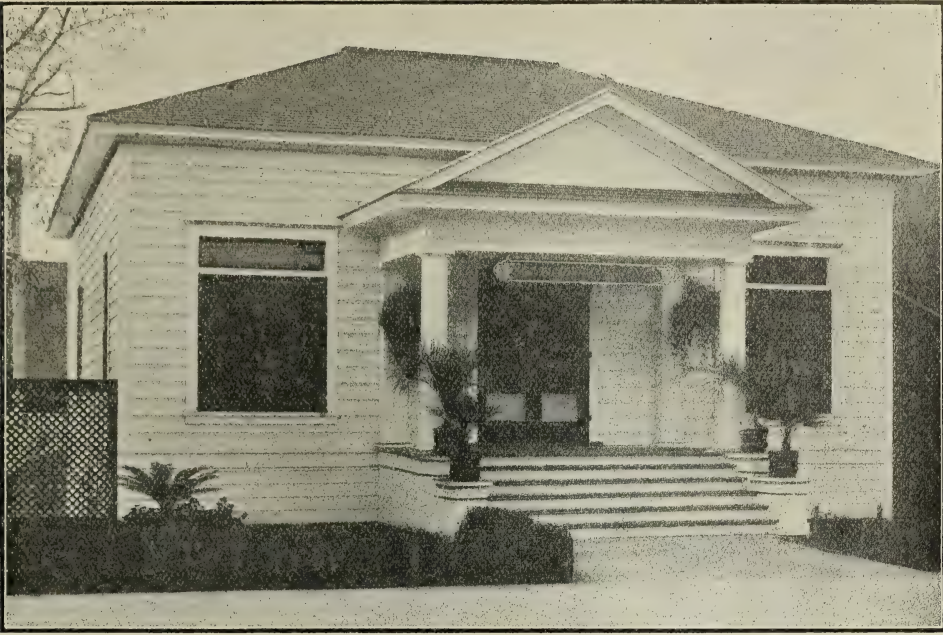
PACKING AND SHIPPING ESTABLISHMENT

This comprises five acres of land in the City of Fresno, on the Southern Pacific Co.'s reservation. The soil in our packing ground is of a loose sandy nature and could not be improved upon for the purpose for which it is used. It is here that all of our trees, shrubs, and plants from our various nurseries are assembled to be packed for shipment to all parts of the world. For the proper care of the tender house plants, during the shipping season, a modern greenhouse 20x50 feet has been erected, and for the care of the half hardy plants, etc., several lath houses have been constructed. Our enormous packing shed is equipped with modern fumigating rooms, baling machines operated with electric motors, a hoist for loading bales and boxes, and every other labor saving device which will assist in expediting our work. A whole year's business is crowded into three short months, and the heart breaking pace under which a great nursery operates in the height of the shipping season, can only be comprehended by those who are actively engaged as a link in the chain which makes the system bring about results. There is something else besides the growing of a tree, in which we take great pride, and that is our packing. Every modern business establishment has learned that a neat package often wins half the battle with a prospective purchaser, and we have never allowed this rule to be lost sight of. Our packing is just as carefully done for California shipments as it is for points in Mexico, China or Africa. In the past season, we used 4500 bundles of tules, weighing eighty tons; 20,000 square feet of lumber for boxes; four tons of rope; 5000 yards of burlap for covering boxes, and an enormous quantity of moss, shingle tow and straw. The material used for packing is, as will be readily understood, no small item in the matter of expense.

We extend to all our patrons who have not time to visit our nurseries, a cordial invitation to inspect our packing grounds during the shipping season, which commences in January and ends in April.



1 Packing Grounds, four acres. 2 Packing Crew. 3 Trees "Heeled in" on Packing Grounds. 4 Baling Trees with Electric Power. 5 Hoist for Loading Bales and Boxes. 6 Styles of Packages used in Shipping Trees and Plants.



The Business Office in the City of Fresno.

MAIN OFFICE

A thorough and accurate system of handling accounts is an important adjunct in a well conducted business. It is here that all the ramifications of a large business centralize, and where the heads of the various departments discuss their plans, and present their ideas for improvements in advancing the branch of the business under their supervision. With the enlargement of our scope and the addition of new nursery plants from time to time the office has had to increase in a corresponding ratio. Our first office was located on the Roeding Place and was not 10 feet square. In those days all the management of the business was carried on entirely by the writer. Our new office, finished this year, which by the way is the fourth one erected since the inception of the business, adjoins our last office on J St., between Fresno and Merced Sts. It is a very large one-story structure, with a broad colonial entrance. The management believes it has secured quarters which will prove adequate for some time to come. The interior arrangement has been made with a view of providing every facility for the rapid conduct of the business and the comfort of our patrons.

A WORD IN CONCLUSION

Needless to add that in the filling of all orders our aim is to please customers and supply only such trees or plants as in our judgment will live and flourish and be prolific of results. Nevertheless, and in spite of the utmost care on our part, errors will sometimes occur. In such cases we ask a suspension of judgment on the part of patrons until we can be apprised of the error and afforded an opportunity to make it good. Remember it is our aim to deserve our friends and patrons, and to do this we at all times stand ready to do that which will be fair alike to the seller as well as the purchaser.

Thanking our thousands of patrons, both at home and abroad, for the liberal patronage bestowed, and hoping to deserve a continuance of their good will and future favors, we remain

Yours to please,

FANCHER CREEK NURSERIES (Inc.)

GEO. C. ROEDING,

President and Manager.

WHEN TO PLANT AND HOW

With natural conditions favorable to the exploitation of rural economies and agricultural and horticultural wealth, it is no wonder that within a scope of years California has become recognized as the center of fruit production in the United States, and one of the leading horticultural sections of the world, whose development is, after all, only in its infancy.

Radical differences in soils and climates are often to be met with in the same orchard, and one locality is often blessed with as great a diversity as may be found in a whole State east of the Rocky Mountains. Hence local horticultural conditions are of prime importance when planting for profit is the consideration. Indeed, it is our experience that it is the very keystone to the successful prosecution of fruit culture as applied to California and the Pacific Coast.

Taking it for granted that the intending planter is reasonably familiar with local conditions prevailing in his locality and on his land, a few suggestions on methods of planting will be found timely. Obviously it is of the utmost importance that the land be put in first class condition to receive the trees. This is accomplished by thorough plowing followed by harrowing until the soil is friable as an ash heap. Nothing is so beneficial to soil as sub-soiling, though planters are often deterred from incurring this additional expense, but where time and conditions will permit, it will do more to promote a fine deep root system and an unusually heavy growth, than any other one thing that can be done in the preparation of the soil. A sub-soil plow merely consists of a standard about twenty inches long attached to a wooden beam like an ordinary plow, except that it is heavier. It has no mould-board but merely has a flattened piece of steel at the lower end of the standard which is slightly concaved so as to lift the soil as it passes underneath. It runs in a furrow made by a single plow, and at a depth of 18 to 20 inches. It requires from ten to twelve good animals to pull it.

Where irrigation is practiced, grading must be resorted to, so that in irrigating all spots will be accessible from the main ditches. Grading does not necessarily mean leveling, for the less the surface soil is moved, the greater will be the ultimate success of the undertaking. Drainage should be given consideration, particularly if the land is low and liable to have standing water during the winter season, or to have water stand too closely to the surface during the spring and summer months. Be

sure to have your future orchard or vineyard planted in straight lines. Nothing is more unsightly than to have your trees or vines out of line. There are two methods of planting, the square and equilateral triangle, both of which are illustrated on the page following.

Time to Plant.—Early planting is always advisable in this State with deciduous fruit and forest trees and plants. In the case of citrus trees and the evergreens, planting may be deferred into late spring and early summer. Preceding the descriptive paragraphs of the different fruits, the reader will find a few cultural directions as applied to particular sorts, to which attention is directed.

Selecting Trees.—This is not over difficult if the planter is reasonably familiar with the character of the land which he is to devote to fruit culture, together with its climatic conditions. Where patrons are in doubt as to varieties, if they will write us of their local conditions, we shall be pleased to make a selection, subject of course to their approval. We aim to supply well grown, straight and healthy trees, with a strong vigorous root development, free from insect pests and disease, and invariably true to name. We do not grow "cheap" trees, because such are expensive to the planter if tendered to him as a gift, and are always a source of dissatisfaction and after recrimination between sellers and buyers. You cannot extract sunbeams from cucumbers, neither can you produce fine fruit from a stunted and badly grown nursery tree. In taking up nursery stock we exercise every precaution to avoid exposure of the roots, so as to maintain the vigor of the tree.

Treatment of Trees on Arrival.—The trees when received at point of destination should immediately be unpacked and carefully "heeled in" on ground previously prepared in order to avoid exposure of the roots; water freely. Should your stock be delayed in transit so as to become dry and suffering from exposure, bury it completely under ground, root and branches, and leave in this condition for a few days, until it becomes normal, when it may with safety be planted out. Never soak the roots in water. The same remedy applies to stock frozen.

In localities where the seasons are very much later than ours, due to higher elevation or to the difference in latitude, it is far better to permit us to forward stock while in the dormant condition. If purchasers will be kind enough to call our attention to the fact that extreme cold weather will not permit of early planting, we will defer shipping their order as late in the season as it is safe for us to do so.

The shipment on arrival at destination should be examined by removing a board from the case, and if the roots appear to be in good condition, the contents should remain undisturbed and the case should be placed in a cellar or in a cold storage plant where the temperature should be maintained at about 35° fahrenheit. This method of handling trees is thoroughly practicable, so much so that we have found it possible to ship trees to the antipodes

completed. Never tramp down the top soil or apply water to it, as it tends to bake the ground, thus preventing its aeration and capillary attraction about the roots, which is essential to the vigorous after-growth of the tree. Guard against setting too deep, but allow for the settling of the soil, so that when once established the tree will stand about as it did at the time of removal from the nursery rows. In the hot interior valleys of this State, it is also

NUMBER OF TREES OR PLANTS ON AN ACRE.

DISTANCE APART.	Square Method	Equilateral Triangle Method
Distance, 1 foot apart each way, No. plants	43,560	50,300
" 2 " " " "	10,890	12,575
" 3 " " " "	4,840	5,889
" 4 " " " "	2,722	3,143
" 5 " " " "	1,742	2,011
" 6 " " " "	1,210	1,397
" 7 " " " "	888	1,025
" 8 " " " "	680	785
" 9 " " " "	537	620
" 10 " " " "	435	502
" 12 " " " "	302	348
" 14 " " " "	222	256
" 15 " " " "	193	222
" 16 " " " "	170	196
" 18 " " " "	134	154
" 20 " " " "	108	125
" 25 " " " "	69	79
" 30 " " " "	48	55
" 35 " " " "	35	40
" 40 " " " "	27	31

RULE SQUARE METHOD—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and the product will be the number of square feet for each plant or hill; which, divided into the number of feet in an acre (43,560) will give the number of plants or trees to an acre.

RULE EQUILATERAL TRIANGLE METHOD—Divide the number required to the acre "square method" by the decimal 866. The result will be the number of plants required to the acre by this method. See diagram on following page.

during our winter season and have the shipment on arrival there placed in cold storage until the opening of the planting season.

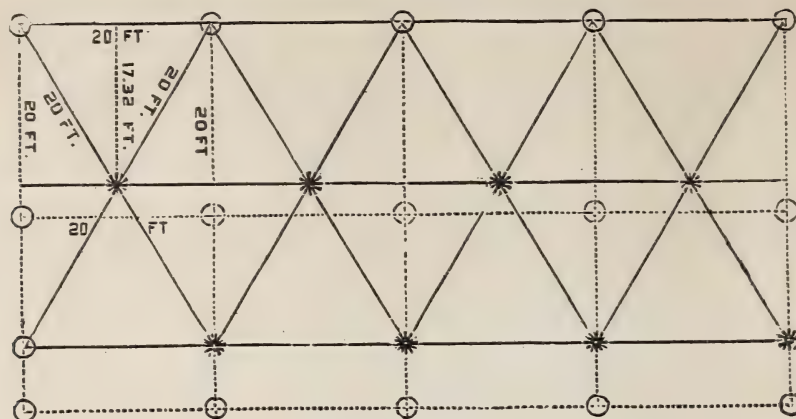
HOW TO PREPARE TREES FOR PLANTING.

Just immediately before planting, be sure to examine the roots carefully, and cut away to a smooth surface all bruised, lacerated and broken roots and rootlets with a sharp knife. The tree can now be said to be ready for its permanent orchard home. In setting out, one person should hold it in an upright position, while another shovels or fills in the loose soil around it, first spreading out the roots and rootlets in as natural a position as possible. The surface or finest and best soil should be put in first among the roots, care being taken to fill in every interstice, thus bringing all the roots in direct contact with the soil. Firm the earth thoroughly about the roots by treading before finally closing up the hole, at the same time applying water freely before the remainder of the soil is finally filled in and the operation of planting is

very important to protect the trunks with Yucca tree-protectors until they can supply their own shade.

BRINGING AN ORCHARD OR VINEYARD INTO BEARING.

Fruit growing is a business pure and simple and in its successful operation is quite as apt to call forth the best energies of brain and brawn of those who are in the business, as in any other line of commercial activity. Just in the proportion that the orchard receives intensive and intelligent care, will it give corresponding returns for the investment of capital, time and labor. Above all things, do not plant too many varieties if you desire to be a factor among the commercial fruit growers. No greater mistake can be made. As an illustration, in planting ten acres of peaches and having on each acre a different variety. When this orchard comes into bearing there are so many varieties and so limited a quantity of each, that the commercial packer of dried or canned fruits does not feel inclined to pay what the fruit is worth because there are not enough of any one



The Square and Equilateral Methods-1

kind to make it an object for him to handle it.

Growers in new localities are often concerned over the fact that there will be no outlet for the product. The handling and marketing of fruit has assumed such vast proportions that there are always commercial institutions eager enough to enter a new field, and exploit it as soon as the production is large enough to encourage the building of packing houses for the handling of any particular product. Another serious mistake on the part of many growers, is to endeavor to harvest enormous crops when their trees are only two or three years old. The result of this unwise policy is in many cases to sacrifice the tree to such an extent that just when it should be bringing profitable returns, it was burdened too heavily when young, and in consequence either dies when it should be in its prime, or it takes years of extraordinary care to restore it to its proper vigor. It is just as much a mistake to expect too much from a young tree, as it is to require a child to do a man's work. The care bestowed for the first two or three years in cultivating, pruning and irrigating, where the rainfall is insufficient to carry the trees through the long dry summer months, is the foundation for the upbuilding of a plant, which will redound to the credit of the owner and give him ample returns for his intelligent care and years of hard but soul-inspiring work.

The tendency toward overproduction in young trees is easily eliminated by pruning. Next to thorough cultivation there is nothing which is more vital to the life of a tree than this one thing. It is difficult to lay down specific rules on this point, but there are basic ones which can generally be observed in the handling of most deciduous trees, with some exceptions, and instructions pertaining to such cases will be dwelt on under proper heads.

To begin with never fail, after a tree is set, to cut it back from 16 to 18 inches from the top of the ground. This is now the

general practice among the most successful orchardists throughout California, and is the result of years of experience. The following winter from three to four branches, properly distributed around the body of the tree, should be allowed to remain to form the head and each one of these branches should have at least one half of its growth removed, cutting away all laterals from them also. These leaders will eventually form the framework of the tree. Above all things do not shorten in a lateral starting near the terminal point of any of the branches, unless you wish to have a hideous crook in your tree. It is a great mistake to think that unless these small laterals are allowed to remain, the tree will not start. The result of the first year's pruning will cause the trees to make an immense growth and will also induce them to grow stocky. The second winter heavy thinning will have to be followed and the pruning should be done with a view of causing the framework branches to spread out. After thinning, half the growth of the current season should be cut off and again remove all laterals from the framework branches. To the novice this severe cutting seems suicidal, but the results obtained in our own orchards have been so very satisfactory that the soundness of this method can not be questioned. The third year leave from two to three laterals properly distributed on each of the main stems, but they in turn should be cut back at least one half. The third year's cutting need not be so severe, but the thinning and shortening in of the fruit bearing branches should be carefully followed out. It is safe to assume that the trees in the fourth year have reached an age when they should bring ample returns, still pruning should be carefully followed out each season. Failure to prune severely when the trees are young means that there will be a lot of long spindling branches, with practically all the new growth at the tip ends. A heavy crop may be harvested the third year, but the branches will bend down under their heavy load, become sunburned and even break off in some cases, thus sacri-

ficing a tree to the rapacity of a grower, who in his eagerness to harvest a crop has killed the "goose that lays the golden egg" The many advantages of this method of pruning are: (1) It makes a low heading and a more stocky tree, affording an umbrageous head, and thus protecting it from the hot rays of the scorching summer sun; (2) it enhances the carrying capacity of the tree, thus avoiding artificial props when maturing a crop of fruit; (3) it expedites the harvesting of the crop, by rendering it more accessible to the pickers, thus economizing time and expense; (4) it prolongs the life of the tree by reason of conserving its vital forces, and rendering it less liable to damage in the breaking of limbs and taxing its strength by carrying its fruits "close in".

ABOUT WEIGHTS AND SHIPPING.

The question of freight charges to distant points is a matter of serious consideration to such customers, and we are therefore submitting a few figures to give a clearer insight into the subject.

The general run of deciduous fruit trees, either in bales or cases, average about as follows: 6 to 8 feet, 2 pounds each; 4 to 6 feet, 1½ pounds each; 3 to 4 feet, one pound each; 2 to 3 feet, ½ pound each. Grape Vines 1-3 of a pound each.

Deciduous ornamental trees from 6 to 8 feet and up to 12 to 15 feet, 3 to 6 pounds each.

Potted plants in from 3 to 6 inch pots, packed in boxes, weigh from 4 to 12 pounds each.

Citrus trees, balled, packed in boxes, 40 pounds each, and with naked roots 3 pounds each.

Palms, packed in boxes, with ball of earth, 2 to 3 foot plants, 40 pounds, and gradually increasing to 110 pounds each on 5 to 6 foot plants.

Grape cuttings 14 to 16 inches long, 80 pounds to the thousand cuttings, in either bales or boxes.

Eucalyptus, Cypress, about 100 to the flat, 50 pounds per flat; hedge plants from 50 to 100 to the box, according to size, 50 pounds per flat.

APPROXIMATE PACKING CHARGES.

It is difficult to give these charges accurately, as they will vary more or less according to the condition of the trees, however, the figures given are taken from our records of charges for the run of shipments for sizes specified: 6 to 8 foot trees in bales, \$2.00 per 1000; 4 to 6 foot trees, \$1.50 per 1000; 3 to 4 foot trees, \$1.25 per 1000; 6 to 8 foot trees completely boxed, \$5.00 per 1000; 4 to 6 foot trees, \$3.00 per 1000; 3 to 4 foot trees, \$2.50 per 1000.

Grapevines in bales, 50 cents per 1000 vines; in cases completely boxed, \$2.00 per 1000 vines.

Deciduous ornamental trees, 6 to 8 feet and up to 12 to 15 feet, in bales from thirty to forty cents per 100, and completely boxed 50 cents to \$1.00 per 100.

Potted plants in from 3 to 6 inch pots, from 1 to 5 cents each.

Citrus trees, balled, packed in boxes, tops protected with burlap, 7½ cents per tree, boxes hold from 10 to 12 trees; in cases completely boxed, 10 cents per tree; naked roots packed in moss in boxes, tops burlaped, one cent per tree; completely boxed, 1½ cents per tree.

Palms, balled, in boxes, tops burlaped from 5 to 20 cents per plant, according to size.

Grape cuttings packed in bales, 20 cents per 1000 cuttings, and in cases completely boxed, 35 cents per 1000.

Eucalyptus, Cypress and hedge plants, tops covered with burlap, in flats, 15 cents per flat.

As has been previously stated, the weights and packing charges given are merely a general average, and this data is supplied for the purpose of placing our customers in position to figure out about what their stock will cost them delivered at destination. We desire to assure our patrons that we only charge for packing to cover the cost of material used.

FREIGHT CLASSIFICATION.

It may not be generally understood that the method of packing a shipment of trees or plants is the basis on which freight charges are made. Nursery stock in bales or boxes completely covered with tulle or burlap take the first class rate, while in cases completely boxed the third class rate applies. When trees are shipped without packing, the classification requires the payment of the double first class rate.

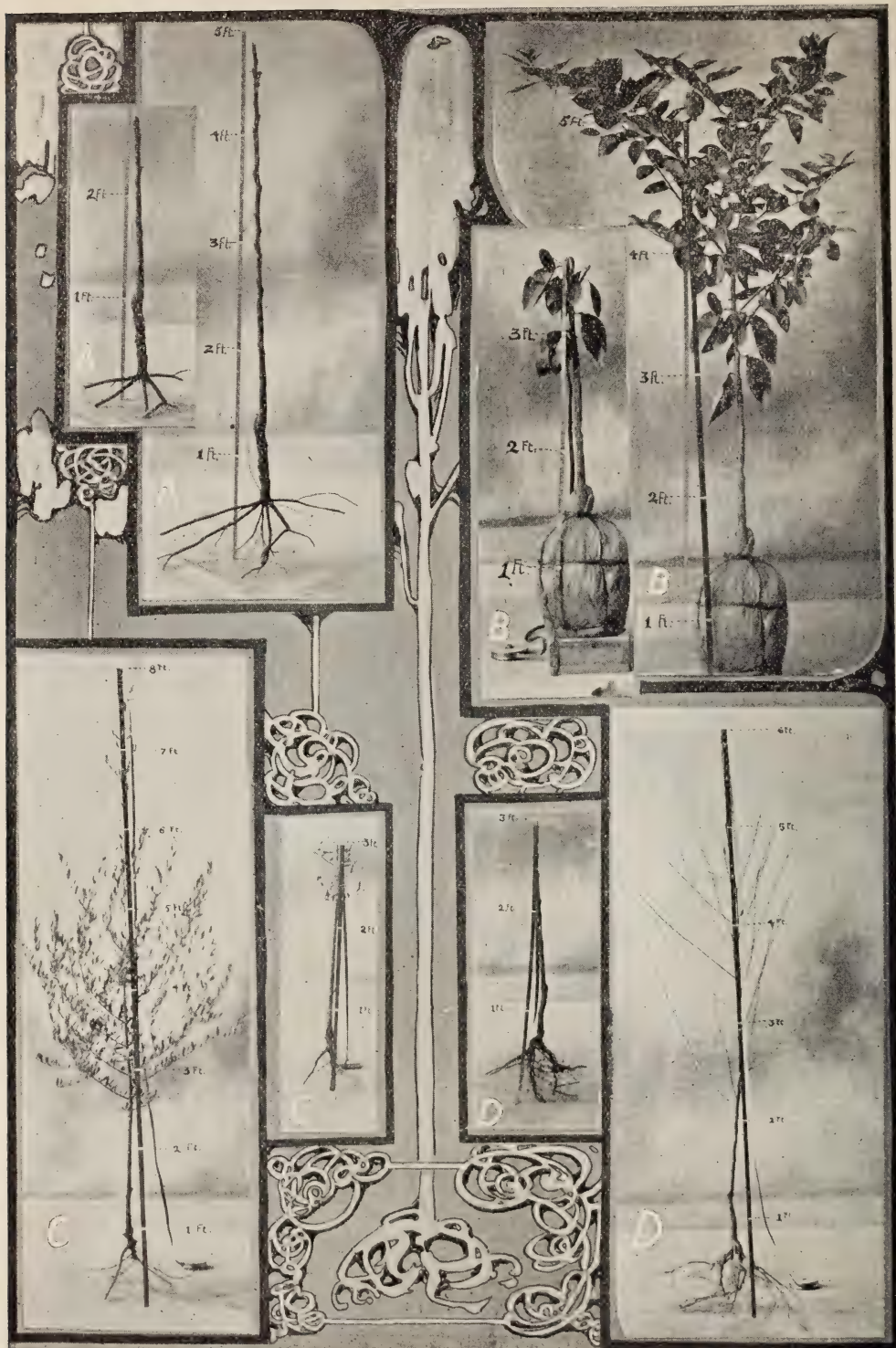
In carload lots with a minimum of ten tons class C applies, and this is as a rule from 50 to 75 per cent. less than the first class rate.

For local shipments in California, trees are either packed in bales, wrapped with tulle or in boxes, tops protected with burlap, for the difference between the first and third class rates are so slight that nothing would be gained by boxing, for the increased cost would more than offset the saving in freight charges.

To distant points in Texas, Mexico, Colorado and to other States and countries outside of California, when stock is to be a long time in transit, it is packed in paper lined cases, not only with a view of having the trees carry better, but also because of the saving in freight charges, the difference in classification being in many cases \$1.00 per hundred pounds.

We have made a very close study of traffic conditions, and our knowledge is used to secure in all cases the very lowest freight rates for the benefit of our customers.

No accurate data can be given as to freight charges on orders for export, except that in a general way a shipment by water to Australia or Japan from San Francisco, will cost about one-third less than it does from Fresno to San Francisco, a distance of 206 miles.



Object Lessons in California Methods of Pruning Nursery Trees at Time of Planting.
For explanation see opposite page.

PRUNING TREES FOR PLANTING

The illustrations on accompanying pages clearly define the system of pruning nursery stock that generally prevails in California, and is that followed in the orchards of the Fancher Creek Nurseries.

Figs. A A show a one year old Smyrna fig tree, the taller illustrating its appearance just as it came from the nursery rows; that to the left is the same specimen cut back to 18 or 20 inches, with its roots properly pruned for planting. The one foot mark shows the depth of the original cut-

same tree pruned for planting. Be sure to remove all bruised and lacerated roots. Do not top the tree until it is planted and be sure to leave a few of the lateral branches, shortening them in to two inches. These will form the head and give an outlet for the sap in case there should be blind buds which do not start. Head the tree back to 18 inches from the top of the ground. Note further specific instructions under the caption "The Peach," page 30.

In no way can the average grower gain the rudiments of an enlightened horticultural practice more quickly than in the ap-



Load of trees packed for shipment; a daily occurrence during the season.

ting and the point at which the new growth takes its inception. In planting be sure to set the tree a trifle deeper, so that this connection will be below the surface.

Figs. B B show an orange tree properly balled ready for shipment, the taller specimen is a fine example of a one year old bud as it appears when taken from the nursery row; the illustration to the left shows it properly pruned ready for planting. If the head of the citrus tree is established at from 26 to 30 inches from the top of the ground, it is only necessary to shorten in the lateral branches slightly. It is advisable to cut the rope around the ball, but the burlap or sacking can be allowed to remain; indeed, if the soil is of a rather light loamy character it is best not to remove it, as it soon decays.

Figs. C.C. show an olive tree as it stood in the nursery and the tree root and top pruned ready for planting. We invariably prune trees back to 36 inches and shorten in all lateral branches immediately after digging,—a very important point, for if trees are shipped with their growth undisturbed they will invariably die. As soon as the trees are planted cut back to 20 inches from the top of the ground, leaving from six to eight lateral branches about 4 inches long.

Figs. D. D. show a peach tree as it appears when dug from the nursery and the

plication of the principles laid down in reliable books, which in their contents give the best thought and experience of the most successful pomologists, horticulturists and growers generally now before the public. In compliance with a general demand we beg to suggest the following books which cover the subject of fruits and fruit culture, as applied to California condition:

Wickson, Edward J. "The California Fruits and How to Grow Them." A manual of methods which have yielded greatest success, with lists of varieties best adapted to the different districts of the State. Price, \$3.00, post paid.

Roeding, George C. "The Smyrna Fig at Home and Abroad." A treatise on practical fig culture, together with an account of the Wild or Capri Fig, and the establishment of the Fig Wasp, *Blas-tophaga grossorum*, in America. Price 50 cents the copy.

Hussman, George. "Grape Culture and Wine Making." \$2.00 post paid.

Bailey, L. H. "The Horticulturists's Rule-Book." A compendium of useful information for fruit growers, truck gardeners, florists and others. A vast mass of information is presented in this handy little reference book, arranged and carefully indexed. Price 75 cents.

FRUIT DEPARTMENT

THE APPLE

In the temperate zone no variety of fruit is so widely distributed or has been more extensively planted than the apple. The list of varieties is amazing. "Downing's Fruits" lists about 1,500 sorts.

Following out the rule, which has dominated us for a number of years, we have scaled down our list of varieties, cataloguing only such kinds having distinct characteristics and of value either for home use or from a commercial standpoint. New varieties are never added to our list, unless we are convinced they possess points, which makes them worthy of cultivation. We are unalterably opposed to giving wide publicity to a new variety and lauding its many merits to the skies, unless we feel it is deserving of commendation. Varieties are variable as to localities and in planting in sections where apple culture is pursued commercially, the advice as to the best varieties to plant should be sought from experienced growers. Broadly speaking the hot interior valleys are not suitable for commercial apple culture on a large scale, as the very rapid and early maturing of the fruit does not seem to be conducive to long keeping, as found in tried localities where conditions are favorable for perfecting fruit having long keeping qualities. Nevertheless it is a fact that where moisture is readily maintained in a soil by either irrigation or by sub-irrigation, many varieties to which attention will be more particularly directed later, are of such exceptionally large size, present so fine an appearance and are of such excellent flavor, that more attention should be given to their culture.

The best soil for this fruit is a deep, rich loam which will allow the free extension of the roots and is exempt from stagnant moisture. An extremely light soil should be avoided. Apples do exceedingly well in all the coast counties, as well as in the upper foothills and mountains of the Sierra Nevada. In adjacent States and Territories to the North and East, apple culture is more general, and may be safely followed wherever the soil and climate is favorable. The keeping qualities and the flavor of our mountain-grown apples at elevations of 5,000 feet or more, are indeed hard to surpass.

It is the consensus of opinion among commercial growers that trees should be planted from 25 to 35 feet apart in orchard form. Trees should be headed from 14 to 16 inches from the top of the ground after being set, except in the higher altitudes, where the snow in settling would cause the branches to break off. Apples are very much subject to sun scald and to the attack of the flat headed borer, the first few years after trees are set out. When headed low, protected with tree protectors, per-

mitting a free circulation of air, and by giving the stem a coating of whitewash to which has been added soap and crude carbolic acid, little danger need be apprehended from either of these evils. The wash is made in the following manner: dissolve one-half gallon of soft soap in one-half gallon of hot water, adding one-fourth pint of crude carbolic acid. When mixing add five gallons of hot water and enough lime to make a mixture the consistency of paint.

Not more than three or four branches should diverge from the body of the tree and these should be as evenly distributed as possible.

For the first three years thinning and a systematic shortening of the main and lateral branches should be followed with the view of securing a strong, well-balanced tree, capable of developing a good crop of fruit without breaking down. In after years shorten in moderately and thin out the center growth.

NEW VARIETIES.

Bismarck. Introduced from New Zealand and said to be one of the most promising of recent introductions, a tremendous bearer and one of the very best apples for hot climates. Fruit is of a beautiful golden-yellow color of the largest size; very highly flavored and a grand dessert apple; also suitable for cooking purposes. Ripens early and is a good keeper.

Gano. Originated by N. G. Gano, of Parkville, Mo., no doubt identical with the Black Ben Davis, at least this fact is conceded by many authorities and our observations would lead us to the same conclusion. A true Ben Davis type, except the color, being deep dark red. November to February.

Glowing Coal. Of enormous size, and said to be very valuable on account of its striking beauty and superior quality. A vigorous grower; flesh fine grained with sub-acid flavor. A most promising sort. November to February.

GENERAL COLLECTION SUMMER.

Duchess of Oldenburg. A beautiful Russian apple; large yellow, streaked with red; tree vigorous and very productive; juicy, firm and crisp, with rich sub-acid flavor; excellent in hot dry climates on account of its dense foliage. July.

Early Harvest. Medium size; bright straw color; tender and fine; good for table and cooking. July.

Gravenstein. Large, beautifully dashed with deep red and orange; tender and crisp, with a highly aromatic flavor; tree very vigorous. A grand old sort. August.

Keswick Codlin. Large, conical; greenish-yellow; flesh, yellowish-white; fine for cooking. August and September.

Maiden's Blush. Medium, well-shaped, yellow, with a very distinct red cheek on the sunny side; flesh white; pleasant sub-acid flavor. It has the beauty of color of the pretty little Lady apple; excellent for the table and for cooking. August and September.

Red Astrachan. Large, deep crimson, with sometimes a little greenish-yellow in the shade; flesh white, moderately juicy, with an agreeable rich acid flavor; very productive. A valuable variety in the interior valleys. A standard from a commercial standpoint. July.

Red June. Medium, oblong, deep red; excellent for table; one of the best early apples. June and July.

White Astrachan. A Russian apple; medium, roundish; skin greenish white; flesh white, sprightly; tender; good for market. A beautiful showy apple, having properties making it worthy of extensive cultivation for commercial purposes. August.

AUTUMN.

Alexander. Large, conical; greenish-yellow, streaked with orange and brilliant bright red in the sun; flesh yellowish-white, of medium quality. Very productive. September.

Fall Pippin. Very large, yellowish-green; tree vigorous and very productive; flesh white, tender and mellow; one of the best fall apples. One of the finest dessert fruits. September.

Fameuse. "Snow Apple." Medium, and roundish; greenish-yellow, with streaks of deep red on sunny side; flesh remarkably white, very juicy, one of the finest dessert apples. October.

Gloria Mundi. Very large, greenish-yellow, flesh coarse, tender, with pleasant sub-acid flavor; excellent for cooking and drying. October.

Golden Russet. Medium; skin rough, yellow covered with dull russet; flesh whitish-yellow, sprightly, sub-acid flavor. September and October. Thrives well in a warm climate.

Hubbardston Nonsuch. Large, roundish oblong and splashed with stripes of bright red, nearly covering a yellowish ground; juicy and tender, with an agreeable acid flavor; very good to best. October. An excellent variety in the interior valleys of the State and in other localities having a dry warm climate.

Jonathan. Medium, conical; light yellow, covered with red stripes; tender and juicy with a sprightly vinous flavor; excellent for table or market; a great favorite in

California, specially commended as a market apple; a fine keeper. October and November.

King of Tompkins County. Very large, flesh yellowish, rather coarse, juicy, with a rich vinous flavor; particularly adapted to mountain regions. October and November.

Mother. Large, red; flesh very tender, rich and aromatic. One of the best dessert apples. October.

Rambo. Medium, yellowish-white, streaked with pale yellow and red; tender, rich and sub-acid; very productive. October.

Red Beitigheimer. A valuable German variety, very large, roundish inclining to conical; skin pale, cream-colored ground; flesh firm white, with brisk sub-acid flavor. Tree a strong grower and heavy bearer. This fruit is very showy and is worthy of extensive cultivation. September.

Rhode Island Greening. Large, greenish-yellow; succeeds on a great variety of soils; flesh yellow, fine-grained, tender, crisp, juicy and aromatic; excellent for cooking and table; adapts itself to a variety of climates. October and November. A valuable variety in warm dry climates.

Roxbury Russet. Medium, dull-green, covered with brownish russet when ripe; flesh greenish-white, with a rich sub-acid flavor; good to very good. October.

Skinner's Pippin. "Skinner's Seedling." Large, skin thin, pale yellow, with a blush on the sunny side; tender and juicy. September.

Twenty Ounce. Large, roundish, greenish-yellow, splashed and marbled with red; flesh coarse but with brisk, sprightly sub-acid flavor. October.

WINTER.

Arkansas Black. Medium to large, round or slightly conical; yellow where not covered with a beautiful dark maroon, approaching to black; flesh firm, fine-grained, juicy, a long keeper. Tree a vigorous grower and very productive. A valuable market apple.

Baldwin. Large, rounded; deep bright red over yellow ground, few russet dots, very productive. One of the best and most popular winter apples. November to January.

Ben Davis. Medium to large; yellowish, almost entirely overspread with two shades of red; flesh white, tender, moderately juicy, pleasant sub-acid. November. An old standard commercial variety.

English Russet. Medium; ovate or conical; greenish-yellow, with red cheeks. Crisp sub-acid; strong grower and a regular bearer. December.

Esopus Spitzenburg. Large, oblong, and smooth, nearly covered with rich lively red and dotted with yellowish russet dots, on shaded side yellowish with broken stripes of red; flesh firm, crisp, juicy, with a delicious crisp flavor. An old stand-by, whose popularity has never waned. November to January.

Grimes' Golden Pippin. Medium; rich golden yellow, sprinkled with small gray and light dots; flesh yellow, crisp, tender, spicy sub-acid, peculiar aroma; very good to best. December to March.

Kentucky Redstreak. Medium, roundish, greenish-yellow shaded with dull purplish-red and sprinkled with large light dots having gray centers; flesh whitish, tender, juicy. December to February.

Lady Apple. A beautiful little dessert fruit; flat; lively lemon-yellow, with a brilliant deep red cheek; flesh crisp, juicy and pleasant. Highly esteemed at the holidays as a beautiful ornament to Christmas trees. December.

Lawver. Large, roundish; bright red, covered with small dots; flesh white, firm, crisp, mild sub-acid; tree vigorous, thrives well in the interior valleys and in warm dry climates. A fine keeper and very showy. A very excellent late market variety. December to February.

Limber Twig. Medium; yellow, shaded with dull crimson; flesh whitish, tender, juicy, with a brisk sub-acid flavor.

Mammoth Black Twig. "Paragon." Originated in Tennessee. The original tree is now fifty years old and is still vigorous and in bearing; fruit large to very large, roundish, somewhat flattened; dark red, slightly streaked; flesh firm, yellow, sub-acid and juicy and of excellent quality; a fine keeper. Its size, splendid shipping and keeping qualities render it one of the most valuable varieties. Should be widely planted. November to January.

Missouri Pippin. "Stone's Eureka." Very extensively planted in the southern part of the State; large roundish, slightly conical; yellowish, striped and splashed with red; covered with a greyish bloom and sprinkled with large greyish dots; tender, juicy, compact; a good market sort. December.

Marshall's Red or Red Bellflower. Originated with J. L. Marshall, near Napa. Fruit very large, same shape as Yellow Bellflower, but of same color as Red June; quality very good; flesh firm, fine-grained, slightly more acid than Yellow Bellflower; tree a very heavy bearer. A very popular variety.

Nickajack. Large, roundish, yellowish shaded and splashed with two shades of red; flesh yellowish, compact, tender and juicy. Tree a vigorous grower and very hardy. December and January.

Northern Spy. Large, roundish, greenish-yellow, covered with light and dark stripes of purplish-red; flesh white, juicy, brisk sub-acid; valuable for market and cooking. The tree is a very rapid, erect grower and a heavy bearer. As a resistant to woolly aphis when grown on its own roots, it cannot be surpassed. A fine late keeper and a standard among commercial growers. November to January.

Red Pearmain. Medium, roundish, oblong, conical; maroon, thickly sprinkled with large grey dots; flesh juicy; mild sub-acid; very extensively grown in the coast regions. A very valuable shipping sort.

Shockley. Below medium, roundish, conical, pale-yellow overspread with red; crisp, juicy, slightly vinous flavor; good bearer and a good keeper. One of the best for this valley, and others with similar climates. December to January.

Smith's Cider. Medium; yellow, shaded with red; a standard commercial variety. November to February.

Stark. Large, roundish, inclining to conical; greenish-yellow, shaded and splashed with dark red; thickly sprinkled with brown dots; flesh yellowish, juicy, mild, sub-acid. A long keeper and profitable market fruit. December to March.

Swaar. Large and regularly formed; pale lemon-yellow, dotted with brown specks; flesh yellowish, fine-grained, tender with rich aromatic flavor; an excellent apple in warm dry climates; a good market sort. December to January.

White Winter Pearmain. Medium, oblong; pale yellow, thickly sprinkled with minute brown dots; flesh yellowish, tender, crisp, juicy, very pleasant sub-acid flavor; succeeds well in all parts of the State; a standard market sort, widely distributed; a great favorite among commercial growers. November to January.

White Pippin. Large; greenish-white, pale yellow when ripe; flesh white, tender, with a rich sub-acid flavor. December to February.

Wine Sap. Medium; yellow ground streaked with red; tree thrives well on sandy, light soil; flesh yellow, with rich, high flavor; excellent for table, and one of the very best cider fruits. November to February.

Yellow Bellflower. Large, oblong; yellow, sometimes a blush in the sun; flesh firm, crisp, juicy, sub-acid; one of the standard varieties in California and should be extensively planted; tree a good grower and very productive; succeeds well in the interior. October to January.

Yellow Newton Pippin. Large; skin smooth, golden-yellow; flesh firm, crisp, juicy; one of the standard varieties in California and probably more extensively planted than any other apple. January to March.

CRAB APPLES.

Hyslop. Large, dark crimson with bloom; very showy and popular on account of its size and hardiness. November to January.

Red Siberian. Fruit an inch in diameter; very handsome tree, an erect, free grower.

Transcendent. Fruit very large; tree immensely productive; fruit juicy and crisp; skin yellow striped with red, the best of its class for cider. September.

Yellow Siberian. Large, fine golden-yellow color.

THE PEAR

The pear is a fruit cultivated throughout California and the Pacific States generally, extending into Mexico. It does well in all soils, but succeeds best on a heavy loam. Of the whole range of commercial fruits it seems to thrive better in alkali soils than any other and is being largely planted in vineyards and orchards, where the vines and trees have been killed. The trees are usually planted 20 to 25 feet apart on the square. The practice of cultivation is much the same as with the stone fruits. Pruning is usually to the vase form of tree. The fruit should be thinned out on heavily loaded trees or else it is liable to run to small and unmerchantable sizes. The fruit of the summer and autumn sorts should be gathered some ten days before ripening and placed in a dark cool place, where it will ripen, acquiring a delicious aroma, fine flavor, and a melting characteristic pleasing to the palate when eaten. The demand for this fruit both in the green and dried state is increasing yearly, making it a most profitable product.

The trees should be cut back to 18 inches from the top of the ground after planting. The following winter, all but three or four branches should be cut out, and at least one-half of their tops removed. The second winter the tree should be pruned severely again, removing not less than one-half of the current season's growth and aiming to allow from one to two shoots on each of the branches from the year before. Prune the tree so as to cause it to spread and prevent overcrowding of the main branches when the tree reaches maturity. The third season cut back one-third of the new growth and thin out such branches as are showing an inclination to crowd the center of the tree too much. The form of the tree will be a sufficient guide as to what plan to follow to develop a shapely tree in future years. Prune every year. No tree responds so readily to the pruning shear as the pear; it assumes the characteristic vase form as if shaped by a magic hand. The tendency to allow the trees to grow unpruned, and as a result to send

up a lot of straight shoots, so closely crowded that they look like bean poles, is a common and reprehensible practice among many growers and in consequence of this the fruit is all in the tops of the trees. If they do happen to have a heavy crop, unless very carefully propped, they break off. Pruning the tree regularly each year, causes it to not only become stocky, but also develops a bearing surface, which starts where the branches diverge from the main stem, to the very top of the tree. The tree in addition to this, becomes self supporting and it will carry a crop of fruit through the season with hardly a prop to support the heavily laden branches.

NEW VARIETIES.

Winter Bartlett. This fine pear originated in Eugene, Oregon. The original tree stands in a door-yard of that city, and with possibly one or two exceptions, has born a good crop for over 20 years. Fruit large, closely resembling the famous Bartlett in shape and appearance, but ripening four months later; skin yellow, slight blush on side exposed to the sun; perfectly smooth, sprinkled with large russet brown dots; flesh not quite as fine-grained as the Bartlett, but tender, juicy and melting and with a flavor almost identical to the Bartlett. Trees in the nursery rows not growing as straight as the Bartlett, but fully as vigorous. This pear has been fruited for several years in this country, and is undoubtedly one of the few pears of recent introduction promising any real merit. Its close resemblance to the Bartlett, fine flavor, unexcelled keeping qualities, combined with its lateness, places it in the front rank, as one of the finest of winter pears, worthy of extensive cultivation. In every way a grand fruit.

GENERAL COLLECTION**SUMMER.**

Bartlett. Large; skin very thin clear lemon-yellow with soft blush on the sunny side; flesh white, buttery, very juicy and highly flavored; the best summer pear in existence; thrives in all parts of California. The most popular of pears and more highly esteemed for canning, shipping and drying than any other.

Beurre Giffard. Medium; tapering to the stem; greenish-yellow, shaded red on sunny side; melting and juicy; a fine early pear. July.

Bloodgood. Medium; yellow, sprinkled with dots; rich, sugary, highly aromatic flavor. August.

Clapp's Favorite. Large; pale lemon-yellow, marbled with crimson on sunny side and thickly sprinkled with brown dots; flesh finely-grained and melting; with a rich vinous flavor. July.

Doyenne d'Ete. Fruit small, roundish, slightly pyriform; skin smooth, fine yellow.



The Winter Bartlett Pear, a New and Popular variety in California.

low, often shaded with bright red and covered with russet dots. One of the earliest.

Lawson or Comet. Large; brilliant crimson color on yellow ground; flesh crisp, juicy, but of rather inferior flavor; a firm and good shipper; the most attractive of all pears for market, on account of its beautiful exterior. Ripens in June; its large size and earliness make it one of our most valuable shipping pears.

Le Conte. Large, bell-shaped; skin smooth and of a rich creamy-yellow color; a rapid grower, a prolific bearer, foliage is rich and luxuriant; it is valuable for its shipping qualities and is excellent for cooking. July.

Madeleine. Medium; pale yellow, dotted with brown dots; flesh melting and juicy; the first early pear. June and July.

Seckel. This small but most delicious pear originated on the farm of Mr. Seckel, near Philadelphia. Without question the richest and most highly flavored variety known. Its highly concentrated, spicy, honeyed flavor is not equalled by any other variety. Skin brownish-green with a lively russet-brown cheek; flesh whitish, buttery, juicy and melting.

AUTUMN.

Beurre Bosc. A large fine pear with long neck; cinnamon-russet, handsome; half melting, juicy, slightly perfumed and delicious; tree fine grower and productive; one of the most valuable of our autumn pears. September.

Beurre Clairgeau. Large; yellow, shaded with orange and crimson, covered with russet dots; flesh yellowish, buttery, juicy and granular; one of the best varieties for transportation. September.

Beurre d'Anjou. Large; russet-yellow pear, shaded with crimson; melting, juicy, rich and delicious; valuable for market and table. September.

Beurre Hardy. Large; greenish, covered with light russet and shaded with brownish-red; flesh buttery, with a rich vinous brisk flavor, good. September.

B. S. Fox. A seedling raised by the late B. S. Fox; large; somewhat the shape of Clairgeau; skin greenish-yellow, smooth, nearly covered with golden russet; flesh buttery, juicy, sub-acid flavor; a valuable addition to the list of our autumnal pears, and highly recommended on account of its excellent shipping qualities. September.

Dana's Hovey. (Winter Seckel.) Fruit medium, regular in form; skin greenish-yellow netted and patched with russet, and sprinkled with many brown dots; flesh yellowish, juicy, melting, with a sugary, rich aromatic flavor. Tree vigorous and a regular and enormous bearer.

Doyenne du Comice. A French pear of recent introduction and of much promise; fruit large; skin greenish yellow, shaded with crimson in sun; flesh buttery, rich and slightly aromatic. October.

Duchesse d'Angouleme. Very large; dull greenish-yellow, spotted with russet; flesh white buttery, with rich, excellent flavor; tree very productive. September.

Flemish Beauty. Large; pale yellow, marbled with light russet; flesh yellowish-white, not fine-grained but very juicy and melting; good bearer and very hardy. September and October.

Howell. Large, waxen yellow, sprinkled with minute russet dots; flesh whitish, juicy, brisk, vinous; vigorous grower and an immensely prolific bearer. September.

Kieffer's Hybrid. Large; skin rich golden-yellow, sprinkled thickly with small dots and often tinted with red on one side; flesh slightly coarse, juicy, with a pronounced quince flavor; tree very vigorous, an early bearer and very prolific and more widely distributed through the United States than any other pear.

WINTER.

Col. Wilder. Another of Fox's seedlings. Large, yellow profusely dotted and marbled with russet; flesh melting, juicy sweet, with a peculiar flavor. Tree a vigorous grower.

Doyenne d'Alencon. Medium; skin rough yellow, shaded with dull crimson; flesh granular, juicy, sugary and highly perfumed. November.

Easter Beurre. Large, roundish, often sprinkled with many dots and patches; flesh white, fine-grained, juicy, sweet, rich flavor; a most desirable winter pear and an excellent shipper; tree a rapid grower and abundant bearer. October to January.

Forelle or Trout Pear. A beautiful German pear, deriving its name from its finely speckled appearance; fruit oblong, inclining to pyriform; lemon-yellow, washed with deep rich red on the sunny side, where it is marked with large crimson specks; flesh white, buttery, melting, slightly vinous. October and November.

Glou Morceau. Large; skin pale greenish-yellow, marked with small green dots; flesh fine-grained, buttery, very melting, with a sugary flavor. November.

P. Barry. A most valuable winter pear, originated by the late B. S. Fox, of San Jose; large to very large; ovate pyriform; skin yellow, nearly covered with russet dots and blotches; flesh juicy, fine-grained, flavor sprightly, rich, excellent. The tree is a vigorous grower and heavy bearer, and in habit is very much like the Winter Nelis; an excellent keeper. It is worthy of extensive cultivation. December to March.

Winter Nelis. Medium; skin yellowish-green, dotted with gray russet; flesh yellowish-white, fine-grained and abounding with juice of a rich, saccharine, aromatic flavor; thrives best in warm localities and is especially adapted to a warm dry climate; a regular bearer. An excellent shipper and good keeper. December.

DWARF.

The following varieties are worked on quince root as dwarfs and are to be recommended for gardens or where space is too limited to permit the growing of standard trees. For extremely wet locations, the quince root is particularly recommended. Bartlett, Beurre Hardy, Duchesse d'Angouleme, Easter Beurre, Glou Morceau, P. Barry, Winter Bartlett, Winter Nelis.

THE CHERRY

The popularity of this, the initial stone fruit of the season, is unquestioned. The firmness of the leading shipping varieties permits of their being packed when almost ripe for eastern shipment and this accounts for the enthusiasm with which our cherries are received in the eastern markets. California has every reason to be justly proud of its large, highly colored and luscious cherries. The tree thrives best in the coast counties, but also does well in some sections of the interior where the soil is of a deep rich alluvial nature, retentive of moisture, and also well drained. The cherries of Washington and Oregon are also famous, although they ripen somewhat later than in California. Plant the trees 25 to 30 feet apart, and on exceptionally good soil even further than this distance is advisable. Low heading is an important point on the road to success, as the tree is subject to sunburn, the bark being very sensitive. The trees should therefore be headed back to 16 inches. From three to five branches should be allowed to grow to form the head of the tree and these should be distributed in such a manner as to prevent forks, as the tree has a tendency to split as it grows older. The first winter, these branches should be cut back one half and the following season not more than one to two branches should be allowed to grow from those left the first year. The third season the new growth should be shortened in about one third, and some of the laterals appearing near the point of divergence from the main stems should not be cut off but merely shortened in, for the shade they furnish is one of the essential features in the development of the young trees. This same method of pruning should be followed until the fifth year. In after years the cutting should be confined to the removal of branches which are interfering and overcrowding.

The soil in which our trees are grown is particularly well adapted to the development of a perfect root system. Our trees are principally worked on the Mazzard root, as it is adapted to the soils of the Pacific coast. The tendency of the Mahaleb root is to dwarf the trees, although the very opposite effect is apparent in the one year buds in nursery rows.

The cherries are classified under two heads, the "Hearts or Bigarreaux," which are the sweet cherries, and the trees are strong, vigorous growers; the Dukes and Morellos are the sour cherries. The trees grow more slowly, the branches are more slender and of a darker hue, the leaves are thicker, more erect and of a deeper green.

THE BIGARREAUX

Belle d'Orleans. Above medium size, roundish heart-shaped; whitish yellow, partially covered with pale red; sweet and excellent. May.

Bing. This deservedly popular cherry originated by Seth Lewelling, of Milwaukee, Oregon, is one of the grandest black cherries in existence today. Its large size, firmness and delicious flavor have caused it to be in active demand by shippers and canners alike. The tree is a remarkably thrifty upright grower, and a prolific bearer.

Black Eagle. An excellent variety; skin deep purple, tender, rich, juicy and highly flavored. Tree a moderate grower and productive. June.

Black Tartarian. An old standard, which has maintained its prestige as one of the leading black cherries. Tree a remarkably vigorous, erect and beautiful grower and an immense bearer. Fruit deep purplish black, flesh rich, juicy, delicious.

California Advance. A seedling of the Early Purple Guigne; earlier than its parent, a great bearer.

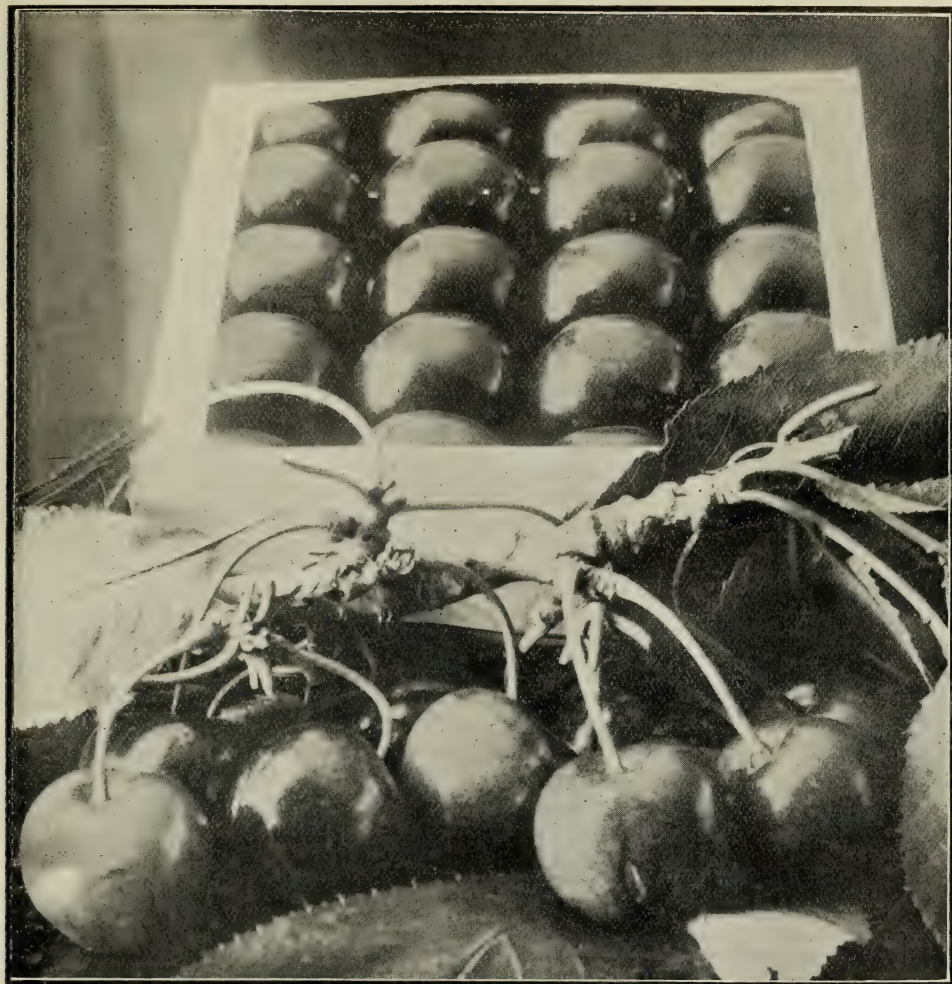
Centennial. A seedling of Napoleon Bigarreau, larger than its parent and beautifully marbled and splashed with crimson on a yellow ground; flesh firm, sweet and a good shipper. June.

Chapman. A seedling of Black Tartarian; said to be larger, finer and earlier; ripens immediately after Early Purple Guigne.

Early Purple Guigne. The best early cherry; medium size, heart-shaped, purple; tender, juicy, sweet; very hardy and productive. April and May.

Elton. Large, pointed, pale yellow, nearly covered with bright red; juicy, fine flavor; a vigorous grower. Last of May.

Governor Wood. A prolific and constant bearer. Resembles Royal Ann, but is of a deeper yellow color and shaded more heavily with red. A very popular canning cherry and one of the most highly prized for the table. June.



The Bing Cherry.

Great Bigarreau. (Monstreuse de Mazel.)

A French cherry, very large; dark red to black; flesh firm and juicy; tree a strong grower and very productive. June.

Knight's Early Black. Large, black, juicy, rich and excellent. May.

Lambert. This very promising cherry, of the largest size and bright rich color, is deserving of all that has been said of it by the introducer. The surface is smooth, glossy and is covered with minute russet dots; flesh reddish with whitish veins, very firm and of unsurpassed quality. Stands well in the lead as a shipping variety. Ripens ten days later than the Royal Ann.

Lewelling. (Black Republican.) (Black Oregon.) Seedling raised by Seth Lewelling of Oregon; large size, black, sweet, with purplish flesh; late and a good shipper.

Napoleon Bigarreau. (Royal Ann.) A magnificent cherry of the largest size, pale

yellow, becoming amber in the shade, richly dotted and spotted with deep red, and with a bright red cheek; flesh very firm, juicy and sweet; tree a rapid grower and immense bearer. The most popular all around cherry for canning, preserving and shipping.

Rockport Bigarreau. Large; pale amber in the shade; light red in the sun; good bearer; highly esteemed for cooking and shipping.

Schmidt's Bigarreau. A black cherry of the largest size; an excellent market variety.

Windsor. Originated at Windsor, Canada, and introduced by Ellwanger & Barry. Fruit large, liver-colored, flesh firm, and of fine quality. Tree very hardy and prolific. One of the best late varieties for market and family use.

Yellow Spanish. Large; pale yellow; one of the best of light colored cherries; June.

DUKES AND MORELLOS.

Belle Magnifique. Large, bright red; flesh juicy, tender, acid, excellent for cooking.

Early Richmond. Medium; dark red; juicy, sprightly acid flavor; one of the best acid cherries, and unsurpassed for cooking purposes; very productive.

English Morello. Large, deep red, juicy, tender, acid, rich; tree dwarf and slender.

May Duke. Large; rich dark red; flesh tender, juicy and sub-acid; an excellent variety, and one of the earliest of its class.

Ostheimer Weichsel. Fruit of largest size; roundish oblate; skin very dark when mature; flesh liver color, tender, juicy, almost sweet, sub-acid. Very fine.

Rosy Hortense. Very large; beautiful, glossy red; a good bearer; excellent for canning, but too soft for shipment.

THE PLUM

Plums and prunes are so closely allied that remarks pertaining to one fruit are equally applicable to the other. Practically speaking the prune is characterized by its sweet, firm flesh and has the property of drying and curing without the seed being removed, making an excellent fruit, recognized as having great value in the commercial world.

The plum in its geographical distribution on this Coast, and particularly in California, covers a wide range of soils and climates, being thrifty along the Coast regions, in the Coast and interior valleys, and well up in the foothills. Indeed, so wide is its range that it is safe to say that every county in the State boasts of its plum orchards, excepting perhaps the city and county of San Francisco. This adaptability is undoubtedly due largely to the various stocks on which the different sorts are budded or grafted. Twenty to twenty-five feet apart is a standard distance to plant the trees.

Being a sprawling grower, the tree should be pruned quite severely when young and headed back to 18 inches from the surface of the ground. The tree, like the cherry, is subject to sun scald, and this is readily overcome by having the branches start down low to give ample shade to the body of the tree. The first four seasons following planting, practically the same method of pruning as directed for other fruits should be adopted. After the tree has acquired its form and the main branches are sturdy and strong enough to support a crop, outside of thinning and cutting out cross limbs, no further pruning is necessary. Experienced growers have learned that the shortening process of pruning, if carried on successively each year, causes the growth of an immense amount of young wood, which, although not strictly speaking suckers, nevertheless do not produce fruit. The fruit bearing branches assume a weeping tendency, produce a large number of fruit bearing spurs,

but very little new wood. When it is noticed that the tree no longer presents a healthy appearance, and are also failing to bear profitable crops, very severe cutting back will have to be resorted to in order to rehabilitate the tree to its former vigor.

Our trees are worked on different roots, calculated to meet the varying soil conditions met with, not only in all sections of California, but in other countries as well.

The Oriental varieties are coming more into favor. The trees grow rapidly, are heavy and regular bearers, and adapt themselves to a wide range of territory. The fruit is very showy and highly flavored and its shipping qualities are unexcelled.

NEW VARIETIES

America. Originated by Luther Burbank. Fruit large to very large; skin glossy coral red; flesh yellow, moderately firm and delicious; said to be one of the most highly flavored plums.

Apple. Another of Burbank's novelties; named for its close resemblance, form, color and rare keeping qualities; flesh firm, deep red with marbling and streaks of pink. A valuable acquisition to the list of Japanese plums; ripens after Burbank; similar to the Satsuma to all outward appearances, although it is very much larger and firmer, being also its superior in flavor.

Bartlett. One of the most striking of Burbank's introductions in the plum line and well named after the famous Bartlett pear, for it resembles it very closely, having an erect upright habit with glossy green leaves. Fruit oval, yellow, turning to deep crimson when fully ripe; flesh light salmon colored, firm and juicy with a flavor partaking of the banana and the Bartlett pear. Ripens before Burbank.

Chalco. A cross between Simoni and Burbank, resembles the former variety very closely but said by the originator, Luther Burbank, to be by far superior to it. A tremendous grower and very prolific. A superior shipping plum, as it ripens and keeps well when picked green. Will eventually supplant the Simoni, thriving and bearing where that variety is a failure.

Climax. This is well named the "King of Plums," its extreme earliness, immense size, high color, delicious flavor and fragrance, places it in the lead among early shipping plums. Fruit heart-shaped; color deep, dark red; flesh yellow. Tree vigorous and remarkably productive.

Sultan. Said by the originator, Luther Burbank, to be one of the most attractive of plums; its huge size, deep purplish crimson color renders it a valuable market variety. The flesh is very firm, fragrant, sweet, dark crimson, clouded and shaded with pink, salmon and light yellow. Tree is a very rapid grower with wood and leaves very much like a Royal Ann Cherry.

GENERAL COLLECTION.

Bavay's Green Gage. An excellent foreign variety; fruit large, greenish-yellow; flesh yellow, juicy, melting, rich; August.

Burbank. Introduced by Mr. Luther Burbank, of Santa Rosa, Cal., and considered to be the best of over forty Japan plums tested by him. Fruit is large, nearly globular; clear cherry-red, with lilac bloom; flesh deep yellow, very sweet, with a peculiar and most agreeable flavor; tree very vigorous, often commencing to bear when only two years old.

Bradshaw. Large; reddish-purple, juicy and pleasant; adheres partially to the stone; July.

Cherry Plum. Small; lively red, sometimes yellow, light bloom; flesh greenish, soft, with a pleasant sub-acid flavor; June.

Clyman. Originated in Napa Valley; mottled, reddish-purple, with beautiful blue bloom; free stone; flesh firm and sweet; two weeks earlier than the Peach Plum, which it very much resembles, only it is not quite as large. Very valuable for shipping. Tree very prolific and a strong grower; June.

Coe's Late Red. Medium, round; dark red; rich, vinous flavor; hangs on the tree a long time; October.

Coe's Golden Drop. Large; light yellow; flesh sweet and delicious; adheres partially to the stone; tree very vigorous; September.

Columbia. Largest size, nearly globular; brownish purple, dotted with fawn-colored specks; rich, sugary and excellent; separates freely from the stone; August.

Duane's Purple. Very large; reddish-purple; flesh yellow, sugary; separates from the stone; August.

Early Golden Drop. Small, bright yellow; sugary; July.

General Hand. Very large, oval; deep yellow, moderately juicy, sweet and good; parts freely from the stone; August.

Giant. Introduced by Luther Burbank; raised from the seed of the Petite d'Agen, pollinated with the Hungarian Prune. Tree is a handsome, strong, vigorous grower; leaves very large, so the fruit is well protected. Fruit large to very large; flesh yellow, flavor good; freestone; September.

Grand Duke. A valuable addition to late plums; skin dark, almost blackish-purple; flesh greenish-yellow, adhering closely to the stone; has a sweet and rich flavor when fully ripe; September.

Green Gage. Small; round, flesh pale green, melting and juicy, separates freely from the stone; one of the best flavored plums; July.

Ickworth Imperatrice. Above medium size, obovate; skin deep purple traced and embroidered with streaks of golden-fawn color; flesh greenish-yellow, sweet, juicy, and rich; adheres slightly to the stone. A valuable late variety; its firmness and fine keeping quality render it worthy of more general cultivation; September.

Imperial Gage. Above medium size; oval, pale green, tinted with yellow; very juicy and rich; fine for canning; August.

Jefferson. Large, yellow, reddish cheek when exposed to the sun; one of the best for canning; one of the most desirable and beautiful of all dessert plums; parts freely from the stone; tree a slow grower, but very productive; August.

Kelsey Japan. Very large heart-shaped; color green, changing to rich yellow, nearly overspread with bright red when fully ripe and covered with bloom; flesh yellow, very firm and adheres slightly to the stone which is very small; tree an immense bearer and very ornamental; July to October.

Peach. Very large, shaped like a peach; skin brownish-red, flesh pale yellow, slightly coarse grained, but juicy; separates freely from the stone; very valuable for shipping, always commanding a high price; July.

Red Egg. Large, oval; pale red, changing to deep red in the sun; flesh coarse, sub-acid flavor; July.

Satsuma. (Blood Plum.) Large, globular, color dark red bloom, skin of a lilac shade; flesh dark red, solid color from skin to pit; firm, rather juicy, good flavor; pit very small; July.

Shropshire Damson. Superior to the common Damson; tree better grower and bearer; dark purple; best for preserves; October.

Simon Plum. (*Prunus Simoni*, Apricot Plum.) Said to be a native of Northern China; tree resembles the peach, with the exception that the leaves are of a lighter shade; a very vigorous upright grower; fruit large, of a cinnabar color, flattened at both ends; flesh yellow, firm, rich, sweet with a marked pineapple and faint banana flavor; pit very small. One of the best of the foreign plums, its high color, delicious flavor and earliness combine to make it one of the best plums for eastern shipment; July.

Victoria. Large, round; yellow shaded red in sun; good flavor; very productive; one of the best plums in cultivation; August.

Washington. A fine, large plum; skin dull yellow, with a pale crimson blush; flesh yellow, firm, very sweet and luscious; separates freely from the stone; August.

Wickson. Originated with Mr. Luther Burbank, Santa Rosa, Cal., and considered by him to be among the best of the Japan plums. The tree is a strong, vigorous upright grower, even more so than the

Simon Plum, which it very much resembles in habit, except that the leaves are much broader. It is a cross with Satsuma on Kelsey bloom. Formed like the Kelsey, but more symmetrical; in ripening the color changes from a deep cherry red to a rich claret; flesh amber, very juicy; pit is small; the flavor is striking and agreeable; a valuable shipping plum; August.

Yellow Egg. Very large; skin of a deep golden color, covered with a white bloom; juicy, but rather acid; an excellent variety for cooking; very showy, and when fully ripe a most attractive dessert plum; August.

THE PRUNE

Prunes, as all experienced horticulturists know, are the dried product of certain varieties of plums, though in the nursery trade the word has a significance of much wider application, meaning the commercial growing of these certain varieties as an independent fruit. The same general remarks as to soils and climates given under the heading of Plums, apply to prune culture. The production of this fruit is one of the chief industries of this state; our prunes are sweeter than the imported and are in every respect superior to them, and today the United States is exporting prunes, particularly the larger sizes, to Europe. The river bottom lands in the San Joaquin Valley are admirably adapted to their successful production.

GENERAL COLLECTION.

Fellenberg. (Large German Prune, Swiss, Italian Prune.) Medium, oval, tapering at both ends; dark purple; flesh greenish-yellow; separates freely from the stone; August.

French. (Petite Prune d'Agen.) Medium sized, egg shaped; violet purple; sweet, rich and sugary; very productive. This is the standard variety for drying, and has been more extensively planted than any other; September.

German. (Quetsche.) Long, oval; skin purple; covered with blue bloom; flesh green, sweet; separates from the stone; September.

Hungarian. (Pond's Seedling, Grosse Prune d'Agen.) Large, ovate; skin thick, reddish-violet, with numerous brown dots; juicy and sweet, tree a strong grower and good bearer; its large size, showy appearance, renders it a profitable variety for shipment for home and distant markets; August.

Imperial Epineuse. (Imperial.) The tree is a strong, thrifty, sturdy grower, and in habit very closely resembles the French Prune. The fruit is very large, and of uniform size on the tree, of a violet-pur-

ple color, with dark blue bloom; flesh greenish-yellow, and exceedingly sweet; pit small. It ripens earlier than the French Prune, and when dry is quite dark, and is in every respect fully equal if not superior to the French Prune in flavor and sweetness, and in size it is far ahead of it.

Robe de Sargent. Fruit medium size, oval; skin deep purple approaching to black and covered with a thick blue bloom; flesh greenish-yellow, sweet and well flavored, sugary, rich and delicious, adhering slightly to the stone. This variety makes a larger, darker colored dried prune than the Prune d'Agen and is valuable both for drying and preserving; September.

Silver Prune. Seedling of Coe's Golden Drop; it is claimed that the tree is more vigorous and productive, while the fruit is larger and superior to its parent; excellent for drying; September.

Sugar. This creation of Burbank's has attracted considerable attention. The fruit runs very even in size, but must be thinned. It ripens fully a month earlier than the French Prune and this fact alone makes it a valuable acquisition but add to this its high percentage of sugar in the fresh fruit, averaging 23-92 per cent, as compared with 18-53 per cent in the French Prune. The tree is a vigorous, strong grower, and having unusually large foliage it ought to prove very valuable in the interior valleys. Skin very tender, dark purple when mature, covered with a thick white bloom. Cures easily; flesh is yellow, tender and rich. It has been found to be a very valuable variety for shipping purposes; August.

Tragedy. Originated in Sacramento county; medium; resembles Duane's Purple, but is more elongated; skin dark purple; flesh yellowish-green; very rich and sweet; parts readily from the pit; tree a rapid grower and very productive. Valuable on account of its earliness and as a shipping fruit. Early July.

THE APRICOT

A fruit intermediate between the peach and the plum, and particularly adapted to California conditions. As a commercial proposition, this State has practically a monopoly in apricot culture, as no other section of the Union produces it in commercial quantities at so small an expense and at so little risk of failure in crops. It finds its best development in Coast counties and in the interior valleys, though on low land it is at times apt to suffer severely from the cold. Owing to the success with which it can be budded to different stocks, it is afforded a wide range in the matter of soil, moisture and climate, and in the production of our trees, we have given particular attention to the different root stocks calculated

to overcome any local drawbacks in this regard. Being a rampant grower, the pruning knife and saw must be constantly, and often severely applied. There are a number of systems employed by the best growers of different localities, each good in its own environment, the particulars of which are to be learned in Wickson's "California Fruits and How to Grow Them." It is indeed a delicious fruit; ships well and commands a good price in the eastern market. For drying and canning there is nothing superior to it.

NEW VARIETIES.

Smyrna. This new variety was introduced by our Mr. Geo. C. Roeding in 1901. It was found growing in the garden of Dr. Rufus W. Lane, American Consul in Smyrna. The fruit is large to very large, resembling in shape the Hemskirke; flesh is bright orange yellow, juicy and sweet, parts freely from the stone, the remarkable fact about it is, that the kernel is sweet, having all the properties of an almond, the Prussic acid taste being absent entirely. Very highly valued in Smyrna, and it will, no doubt, be a valuable addition to our list of apricots here, with everything in its favor to be successfully grown, due to the similarity of our climate to that of Smyrna.

Tilton. Originated by Mr. Tilton of Le-moore, Kings County, Cal. It is said the original tree has never failed to bear an abundant crop. The young orchards now coming into bearing in many sections are giving evidence of their fruitfulness. In general appearance the fruit resembles the Routier Peach, averaging fully as large, but is much lighter in color than that variety. It ripens very uniformly and is exceedingly firm and will hang on the tree even when dead ripe without deteriorating. The flesh is of a light orange-yellow color, with a very highly pronounced apricot flavor. It not only dries well, but is valuable for canning and shipping. Already very much in demand by canners.

GENERAL COLLECTION

Black Apricot. This remarkable apricot so strongly resembles a dark round plum, that at a little distance it might be mistaken for one. The tree is an upright grower, with small oval foliage. Fruit medium, dull reddish-purple, and covered with a slight down; flesh varying from pale red to yellow; adheres to stone; juicy with a pleasant astringent flavor. A striking novelty; June.

Blenheim. (Shipley.) An excellent variety and in great demand. The trees are early and regular bearers and have an abundance of foliage thoroughly protecting the fruit. Fruit above medium, oval; orange color, with deep yellow; juicy and rich flesh; June.

Hemskirke. Of English origin. It strongly resembles the Moorpark, but ripens earlier and is a more regular and prolific bearer. Fruit large, roundish, but considerably compressed or flattened on both sides. Flesh bright orange, tender with a rich plum-like flavor; ripens very uniformly; late June. A great favorite.

Large Early Montgamet. A large apricot of French origin; resembles the French apricot in shape and appearance. The tree is a striking grower and it is easily distinguished from all other varieties by its long slender branches which have a weeping tendency; the fruit is large, compressed, and of a deep golden yellow color; early June.

Moorpark. Very large; yellowish-green, brownish-red on the sunny side, marked with numerous dark specks and dots; flesh bright orange, parts freely from the stone; which is peculiarly perforated along the back where a pin may be pushed through from one end to the other. Fine for canning and drying. The most popular variety in the northern coast counties; late June.

Newcastle Early. Originated by C. M. Silva & Son, of Newcastle, California. Medium, round, and two weeks earlier than Royal. A good shipper and very valuable on account of its earliness; first week in June.

Pringle. Of California origin; small, cling-stone; worthy of cultivation only for its earliness; should not be extensively planted; May.

Royal. French origin; fruit medium, oval, slightly compressed; dull yellow, with red flesh on side exposed to the sun; flesh pale orange, with rich, vinous flavor; very desirable in all parts of the State, and more extensively planted than any other variety; excellent for canning and drying; June

Routier's Peach. (Peach, Bergetti's French.) Fruit very large, rather flattened and compressed on its sides, with a well marked suture. Skin orange-yellow, flesh of a fine saffron yellow color, juicy, rich and highly flavored. This apricot is a valuable acquisition, and we take pleasure in recommending it, as one of the very best apricots in existence. When dried it is of a deep golden-yellow color. Its large size, fine color, render it very attractive in the dried state; early June.

St. Ambroise. A large, early apricot, earlier than the Moorpark; deep yellow color; flesh sugary and juicy; good for drying or canning; June.

Spark's Mammoth. A new apricot originated in Ventura County by W. W. Sparks. The fruit is of an extra large size, with the skin of a pale lemon-yellow color. Flesh clear yellow, very tender, juicy and sweet.

THE PEACH

The Peach, like the prune and apricot is indeed a fruit of commercial importance to economic horticulture, and finds wide distribution not only in California, but throughout the length and breadth of the Pacific slope. For size, flavor, color and shipping qualities the peaches grown in this State have a national reputation. The tree prefers a light, deep, sandy loam, preferably inclined to be dry rather than too moist, but well drained. It should be not less than three or four feet deep, the more depth the better.

The general cultural directions for the handling of deciduous fruit trees in the introductory chapters should be closely followed in the case of the Peach tree. Nothing will bring a peach tree to a premature end quicker than not to prune. The trees as they stand in nursery rows, have the limbs removed to a point about 12 inches from the ground. Instead of removing all these limbs when topping the tree at 18 inches, they should be cut back to about two inches long, so in case the buds on the main body do not start in the spring, the buds and the smaller branches will. If the buds do start on the main body, the branchlets may be clipped off with a shear. This is a very important point, particularly with peach trees, and if followed by planters generally would in many cases obviate the necessity of growing a new stem, where the buds happen to be blind and fail to start out at the proper height from the ground. From three to five branches should form the head of the tree, and these should be cut back to 12 inches the first winter after planting, and distributed in such a manner on the body of the tree so as to prevent crowding and the development of forks.

The aim of the pruner should be to open up the tree and cut out any central leaders. The second year a severe heading back again should take place, not leaving over two feet of the new growth. Thin out the numerous small laterals, allowing only a few to remain and remove any which are close to the point where the framework branches have been topped. If such laterals are allowed to remain, the new growth in the spring will force its way through them instead of forcing buds out where they belong, making an ugly crook in the tree. The third season from two to three shoots should be allowed to start from the branches of the year before, and they in turn should have their growth shortened in about one-half. The head of the tree will in the third season be fully formed and a medium crop of fruit may be expected. The fourth year the multiplication of new branches should be allowed to develop from those of the year before in about the same ratio, at the same time following out the shortening in method.



Pruning the Peach Tree.

1 First Year. 2 Second Year. 3 Third Year.

Never neglect to follow up the pruning and thinning of a peach tree every year no matter how old. Topping without thinning in after years causes the development of an immense amount of barren wood, and has a tendency to smother the tree. Trees should never be set closer than 24 feet apart, unless in extremely light soil where 20 feet is permissible. To obtain large firm fruit thinning should be resorted to if the trees are heavily laden. This should be done when the fruit has set well and before the kernel has hardened.

NEW VARIETIES.

Admiral Dewey. Ripens at the same time as the Triumph, but is said to be far superior to it. It is a perfect free stone, has better form and brighter color; flesh is yellow of uniform color and texture to the pit. The tree is a strong symmetrical grower and fully as hardy and productive as the Triumph. Said to be the very best early yellow freestone in cultivation.

Crosby. (This is an Iron Clad Peach.) The tree is of low spreading habit, inclined to dwarf. The fruit is large, almost globular in form and deeply divided by a broad suture; bright orange-yellow, splashed with streaks of carmine on the sunny side. Pit small; a freestone; flesh juicy and sweet. Ripens between Early and Late Crawford. This variety has fruited with us; its firmness, fine appearance, globular form, will make it valuable for shipping as well as for drying. Worthy of trial.

Opulent. Originated by Luther Burbank. Hybrid between the Muir Peach and New White Nectarine. Medium to large; almost globular, skin downy, creamy white with crimson dots and blushes. Flesh firm, very juicy, flavor equal to the very best. A perfect freestone. Ripens just before the Early Crawford and an invaluable sort for home use.

Sneed. Said to be fully ten days earlier than Alexander. Large, creamy-white, with blush cheek; flesh tender, juicy, melting and delicious; clings slightly to the pit. A valuable early peach. Ripens in May.

Triumph. Ripens with Alexander; blooms late and tree is a strong thrifty grower. The fruit is of large size, with very small pit; surface yellow, nearly covered with red, and dark crimson in the sun; flesh bright yellow, juicy, sweet and of excellent flavor.

GENERAL COLLECTION.

The time for ripening is given for the interior valleys; on the coast it is from ten days to two weeks later. All varieties which are not designated as clingstones are free.

Alexander. Large; greenish-white, with deep maroon shade; juicy and sweet; one of the standard sorts; early in June.

Australian Saucer. Medium flat, hollowed like a saucer on one side, hence the

name. Skin white, shaded crimson in the sun; flesh white, sweet, delicious flavor; pit very small, almost round; an oddity for home consumption only; July.

Bilyeu's Late. Originated in Caroline county, Maryland. A very late peach, ripening in October. Large; color white, with a beautiful blush cheek; flesh white; coarse but sweet; an excellent shipper.

Blood Cling. Fruit medium; skin downy, clouded and streaked with purplish-red; esteemed for pickling and preserving; July.

Brigg's Red May. Originated with J. B. Briggs, of Marysville; fruit medium to large; skin greenish-white, with rich red cheek; flesh greenish-white, melting and juicy; a standard early variety, and the one most extensively planted in this state; middle of June.

Early Imperial. Originated by W. W. Smith, Vacaville. Fruit medium, deep yellow, with dark red cheek; flesh rich, juicy and very firm. A very highly colored peach and remarkable for its firmness. Ripens with Hale's Early. Its rich color and earliness combined will make it one of the most profitable varieties for early shipment; latter part of June.

Early Crawford. Very large, oblong; skin yellow, with fine red cheek; flesh yellow, very sweet and excellent; middle of July.

Elberta. Introduced from Georgia. A cross between Crawfords Early and Chinese Cling; very large; bright yellow with a beautiful mottled red cheek; flesh yellow, juicy, sweet; tree a uniform and regular bearer and strong grower. Fruit very showy and a perfect freestone. One of the best market varieties, selling at double the quotations of other peaches; last of July.

Foster. Large; yellow, becoming very dark and earlier than the Early Crawford and superior in every respect; flesh is firmer, without so much red at the stone, which is smaller; one of the very best for drying, market or canning, and recognized as an excellent commercial variety; July.

George's Late Cling. Originated in Sacramento; large, yellowish-white, splashed with red; flesh firm, juicy, white, colored around the pit; of rather inferior flavor; tree a tremendous bearer and strong grower. Fruit ships and keeps well, and on account of its beautiful appearance sells readily in the Eastern markets; middle of September.

Hale's Early. Medium to large; skin greenish, mostly mottled with red; flesh white, juicy, and sweet; good for shipping; early in July.

Heath Cling. A most delicious Cling. Very large; skin downy, creamy white, with faint blush of red; flesh white, slightly red at the pit; very tender, juicy and sweet; valuable for canning; season early September.



Phillips Cling Peach, a California Favorite.

Late Crawford. Very large; roundish; yellow with dark red cheeks; flesh deep yellow, juicy and melting; flavor rich and excellent; very popular, valuable for canning and drying. Worthy of extensive cultivation; ripens middle of August.

Levy's Late or Henrietta Cling. A magnificent cling of large size; skin a deep yellow, a shade of rich brownish-red in the sun, flesh deep yellow, firm, juicy, sweet, half melting, slightly vinous. Latest of all clings and highly esteemed for canning and market; middle of September.

Lovell. This magnificent California peach stands in the lead over all other clear yellow freestones. Its only rival is the Muir, but so close is the resemblance between the two that experts cannot detect the difference when dried or canned, and the Lovell is sold in the commercial world as the Muir without anyone being the wiser. It dries just as heavily as its rival and really makes a handsomer dried product. In size, it is large to very large and usually uniform on the tree. The tree is a much more rapid grower and is fully equal to the Muir in bearing qualities; first week in August.

McDevitt's Cling. Originated with Neal McDevitt, of Placer County. Very large; rich golden-yellow, becoming quite red when ripe; flesh yellow, firm and of superior flavor; excellent shipper; last of August.

McKevitt's Cling. A California seedling introduced by A. McKevitt, Vaca Valley, and recognized today as one of the grandest white clings. Skin clear creamy white with a delicate blush of red; flesh firm, rich, sugary, highly flavored and greenish-white to the pit without a particle of red; as a white canning peach it has no superior and its remarkable firmness even when dead ripe makes it invaluable for shipping purposes. Tree a remarkably thrifty grower and almost free from curl; last of August.

Morris White. Fruit large; oval; skin greenish-white, with a creamy tinge when fully ripe; flesh white to the stone, firm, sweet and juicy; good for canning or drying; August.

Muir. Large to very large; perfect freestone; flesh clear yellow, very dense, rich and sweet; pit small; fruit a good shipper

and canner and peculiarly adapted to drying because of its exceptional sweetness and density of flesh. Has been more extensively planted than any other variety of freestone peach and the demand for it continues to be as active as ever; last of July.

Persian Cling. Originated in Visalia, probably from the seed of the Heath Cling. Very large; clear, white skin; flesh white to the pit; very firm and sweet; a most delicious canning peach. Tree a strong grower and a heavy bearer. Much superior to the Heath Cling and worthy of extensive cultivation; middle of August.

Phillips' Cling. Fine, large; yellow; flesh firm, clear yellow to the pit which is very small. Preferred by canners to any other variety of Cling; its firmness, fine texture of flesh and lateness, not ripening until September, when other Clings are practically harvested, makes a demand for this variety far beyond the supply.

Picquet's Late. Large and handsome; skin yellow, with red cheek; flesh yellow, melting, sweet and of the highest flavor, a very valuable peach; early in September.

Ringold Mammoth Cling. (Wilkins' Cling.) Very large; skin lemon-yellow; flesh clear white to pit; sugary, rich and delicious; tree very rapid grower and productive; fine for canning and preserving; middle of September.

Runyon's Orange Cling. Originated with Mr. Sol Runyon, on the Sacramento river. Fruit very large, yellow, with a dark crimson cheek; flesh golden-yellow, rich and sugary, with a vinous flavor; tree an immense bearer, and is not subject to mildew like the common sort; a splendid fruit for shipping, canning or drying; early August.

Salway. A large peach of English origin; creamy yellow with a brownish red cheek; flesh deep yellow, red at the pit, rich and sweet; a standard late peach, growing more and more in favor with the orchardists; middle of September.

Sellers' Orange Cling. Very large; rich golden color; one of the very best Clings; ripens with Late Crawford; middle of August.

Strawberry. Medium size; white, marbled with dark red; flesh white, red near the pit; juicy, with a rich, delicious flavor; July.

Susquehanna. Large, nearly globular; skin rich yellow, nearly covered with red; flesh yellow, sweet, juicy, with rich, vinous flavor; tree a strong grower; branches very tenacious, carrying a heavy crop of fruit without breaking. Very valuable for this valley and even superior to the Late Crawford; ripening a few days earlier.

Tuscan Cling. (Tuskena, Yellow Tuscan.) A very large yellow Cling; the earliest fine Cling; flesh juicy and of fine flavor. A

good shipping and canning peach and very desirable on account of its earliness, ripening with the Early Crawford. Has become one of the most popular peaches among commercial canners and is always in great demand.

Van Buren Dwarf. Tree very dwarf and ornamental, and on this account valuable for very small gardens; fruits medium size; skin yellow shaded red; flesh yellow and of fine quality; middle of August.

Ward's Late Free. Large, roundish; skin white, with beautiful crimson cheek; flesh white, juicy, rich; October.

Wheatland. Very large, round; yellow shaded red; flesh yellow, firm, melting, juicy, rich, sweet; tree a rapid grower and heavy bearer; fruit ripens between the Early and Late Crawford; one of the largest and finest flavored freestones and superior to either of these varieties; excellent for shipping, canning or drying; first of August.

Wonderful. Large, almost globular, slightly pointed apex; uniform size and shape; rich golden-yellow, overspread with carmine; flesh firm, yellow, delicious and highly flavored; a good keeper; one of the best for shipping; September.

Yellow St. John. A favorite southern sort. Large, orange-yellow, with red cheeks; juicy, sweet and highly flavored; early in July.

THE NECTARINE

As it is becoming better known, this delicious fruit is being extensively planted every year. As a dried fruit it is far superior to the peach and as a preserve it has few equals. Some varieties stand shipment well and being a novelty in the eastern markets, command good prices. Will stand up well even when shipped to the London market, where nectarines are prized as highly as gold pieces. It should be pruned in the same manner as the peach.

Advance. Large, round; skin green, blotched with red and brown on sunny side; flesh greenish-white and sugary. Its earliness, large size and productiveness makes this variety a valuable acquisition.

Boston. Large, oval; bright yellow, with deep red cheek; flesh yellow, with a pleasant sub-acid flavor; tree a fair bearer; July.

Humboldt. Very large; skin bright orange-yellow, streaked and mottled with dark crimson in the sun; flesh orange, very tender and juicy. The only yellow nectarine outside of the Boston; by far a superior variety.

New White. Large; skin greenish-white; flesh white, tender, juicy; stone small and free; one of the best varieties for drying; July.

Stanwick. Very large, often as large as a peach; skin pale, greenish-white, shaded into deep rich violet in the sun; flesh white, tender, juicy, rich, sugary and delicious. For drying and shipping not excelled by any other variety; August.

THE QUINCE

A standard fruit which has held its own without material modification for upwards of a hundred years. It likes a deep and loamy, moist soil. Its distribution is quite general, doing well along the Coast and in the interior, where there is sufficient moisture or irrigation is practicable. Though not of equal importance with the peach and apple, nevertheless a few trees should find a place in every family orchard. To cut the new growth back about one-half is deemed good practice, and certainly has a tendency to develop strong umbrageous trees and fruit of exceptionally large size.

NEW VARIETIES.

Pineapple. Originated by Luther Burbank. The name comes from the flavor which is suggestive of the pineapple. The fruit in form and size resembles the Orange quince, but is smoother and more globular. Makes a superior jelly; can be eaten raw and will cook as tender in five minutes as the best cooking apple; possessing a most exquisite and delicious flavor not equaled by any other quince.

Smyrna. This remarkable fine quince was introduced by us from the Aidin District, near Smyrna, in 1887. The tree is a rapid, strong grower, and immensely prolific, and is especially adapted to the interior valleys, on account of its heavy foliage. The fruit is very large, and of a lively yellow-lemon color, presenting a fine appearance. The flesh when cooked is very tender, having a delicious flavor, and most pronounced quince taste and odor. It ripens about the same time as the Orange quince, and as a keeper it cannot be surpassed.

GENERAL COLLECTION

Apple or Orange. Large; fine golden color; valuable for preserves or flavoring; very productive, the most popular variety; September.

Champion. Large to very large; skin strongly russeted around the stem; below a lively yellow; flesh cooks very tender, flavor is most delicious. More productive than the Orange, ripening two weeks later.

Chinese. A most extraordinary fruit; oblong, of immense size, often weighing from two to two and a half pounds; a very distinct grower.

Rea's Mammoth. Of recent introduction. a strong grower, and very productive.

West's Mammoth. A very fine quince, large and without hard spots or cores; originated in Stockton by W. B. West.

THE NUT FRUITS

THE ALMOND

Trees and shrubs bearing edible nut fruits have long been cultivated for the value of their product as a food for man, as well as for their oils used chiefly for culinary purposes. The list is quite extensive, and has proven a valuable adjunct to the horticultural wealth of the State. The assortment of varieties propagated on the grounds of the Fancher Creek Nurseries, embraces those sorts which have been tested under California conditions and not found wanting.

Chief among these and first in alphabetical order must be mentioned the Almond, thought to be native of the Mediterranean regions. Budding and blooming early it is quite apt to be nipped by early spring frosts when subjected to the low lands or colder regions of the State. It requires a light, warm, well drained situation, because keenly sensitive to "wet feet."

In training, it should be handled like the peach the first three years to secure a well shaped, sturdy tree. After the third year the pruning shears should only be used to remove objectionable branches. The tendency of most varieties is to become too dense, and thinning in the winter months should not be neglected.

NEW VARIETIES.

The Jordan. This new sort is the famous Spanish variety so long sought after by nut growers. First introduced by the late John Rock, of Niles, and later by the United States Department of Agriculture. The name is a corruption of the French word "jardin," meaning simply "garden" almond. The nuts are long and are hardshells; the kernels are single, narrow, long and plump; the kernel is always removed from the nut proper when exported. In this form they bring from eight to ten cents more per pound than any other variety. The tree is a strong thrifty grower and heavy bearer and will probably do much to give almond growing in California a strong impetus.

GENERAL COLLECTION.

Drake's Seedling. Originated with Mr. Drake, of Suisun, California; of the Languedoc class; bears abundantly and regularly where the Languedoc is a total failure.

Harriott's Seedling or Commercial. One of the largest of the soft shell almonds; originated in Visalia, California, where the

original tree bears regularly and abundantly; shell softer than the Languedoc; nut long, quite large, kernel sweet; this tree is one of the finest ornamental trees, having a fine dense head; makes a very fine avenue tree.

I. X. L. Tree a sturdy, upright grower, with large leaves; nuts large; shells easily, no machine being needed, nor is any bleaching necessary; soft shell but perfect. It bears heavily and regularly. Highly recommended by all orchardists who have tried it.

Languedoc. The best of the foreign varieties ever tried in California; nut large; kernel sweet.

La Prima. The latest of Mr. Hatch's introductions. Tree a very uniform and symmetrical grower; nut resembles Ne Plus Ultra, but averages somewhat larger in size, not borne in clusters, but evenly distributed throughout the tree.

Ne Plus Ultra. Introduced by Mr. A. T. Hatch. Tree a rapid grower; leaves rather large; a heavy and regular bearer; nuts large and very long in shape; soft shell; hulls free.

Nonpareil. First called Extra. Of a weeping style of growth, smaller foliage than the I. X. L., but still forms a beautiful tree; an extraordinary heavy and regular bearer, with very thin shell, of the Paper Shell type. One of the best.

Peerless. Is a deservedly popular variety grown quite extensively in Sacramento County, where it is highly esteemed and given preference by some growers to the I. X. L., which it closely resembles with the exception that the nut is much larger. The tree is a regular and heavy bearer.

THE BUTTERNUT. *Juglans Cinerea*

A native of the Eastern states, of vigorous growth, spreading head; grayish colored bark, and foliage resembling that of the *Ailanthus*. Produces a large, longish nut, prized for its sweet, oily, nutritious kernel.

THE CHESTNUT. *Castanea*

Experience shows that a large area of California will successfully grow chestnut trees, particularly if the soil be of a heavy, clayey texture. If headed low to the ground, will produce large crops of fruit regularly; all failures to successfully grow them can be traced to the sunburn of the exposed stem. Beyond its economic value for fruits, the tree possesses advantages for wayside plantings.

American Sweet. Nuts superior and sweeter than any of the large European nuts, but only one-third the size; very fine as a shade tree.

Italian or Spanish. Introduced from Europe, strong grower and very productive, and valuable both for ornament and fruit. Nut much larger than the American Sweet.

Japan Mammoth. Immense size, and of fine flavor; the burrs contain at times as many as five large nuts; the tree is similar in habit and growth to the Italian Chestnut; it yields fruit in two years after planting; seedlings vary in size and shape as well as habit of growth and productiveness, and are not so reliable as grafted trees.

Marron Combale. A large nut, sweet and highly flavored; trees stand the sun well. The wood is of a yellowish brown color, the leaves narrow and very glossy.

Marron de Lyon. The largest of Marrons; fruit roundish; sweet; of French origin.

Numbo. Originated with Mahlon Moon, Morrisville, Pennsylvania, from seed of an imported tree. Tree a good grower; close, compact head; nuts large, handsome and as fine flavored as any large chestnut

Paragon. Originated in Germantown, Philadelphia, Penn. Tree hardy, spreading, vigorous, very productive; burr very large; nut large, three to five in burr; kernel fine-grained, sweet and of good quality. Said to be the most widely planted and the most uniformly successful variety in the United States.

THE FILBERT OR HAZELNUT. *Corylus*

As a family, they may be described as large shrubs or low trees. All are unisexual, having the staminate blossoms in catkins which make their appearance on the wood of the previous year. The pistillate or female blossoms compose a star-like tuft of crimson stigmas, pushing their way out in the young spring growth. The hazelnut requires a warm loamy soil and thrives best in the coast counties, and in the lower mountains of the Coast Range where there are no great extremes of temperature during the summer months. Our collection comprises many of the best European and American varieties, although the former, when climatic and soil conditions are favorable, have given the most satisfactory results.

THE HICKORY. *Carya Alba*

Shag Bark or Shell Bark Hickory. This very striking and profitable wood producing tree of the eastern and middle states has never been extensively planted in California, there being very few localities where the climatic conditions are favorable for its perfect development. Deep, well drained, fertile loams, either of sandy or clayey nature, are the most acceptable for the rapid development of the tree, with a humid, moderately warm climate in the summer months. The nuts have a peculiar, rich, nutty flavor, equaled by no other variety.



Paper Shell Pecan. Single nut to the left natural size.

THE PECAN. *Hicoria Pecan*

Of the eight or nine species of Hickories the one which produces the most marketable fruit and in the most profitable quantities is the pecan. A native of the southern states, it is today the only nut grown there and to a limited extent in the middle states, which has any commercial importance. Texas is probably the largest producer of pecans, the crop aggregating several millions of pounds and gathered almost exclusively from seedling trees. The

business of cracking pecans and selling the meats put up in attractive packages has created a demand for the nuts, which is increasing at a very rapid rate. It is largely due to the impetus the industry has received in recent years that has encouraged the planting of trees on a commercial scale and of the improved papershell types. The difficulty of extracting the meat from the hard shell seedling nuts has been one of the causes for the nut not being more popular as a desert fruit. The thin shells of the improved types, the ease with which the

meats are removed and the noticeable absence of the fibrous segments found in the hard shell nuts, which possess a peculiar acrid taste, will do much to make it popular.

It thrives in a great variety of soils, its principal requirement being an ample supply of moisture, in soil which is well drained during the growing season. It gives promise of being a valuable acquisition in the warm interior valleys of Washington, Oregon and California, where the soils are sufficiently retentive of moisture from the annual rainfall or where irrigation is practiced. In the coast counties, although the tree grows well, it does not mature its nuts, due to the cool, foggy weather which does not seem conducive to the proper development of the nuts before the season of rest sets in. The Pecan should be planted at least forty feet apart, and even fifty or sixty feet in deep, rich bottom-lands is recommended. The oft repeated remark that only trees that have never had their tap root cut will bear, has time and again been shown to be a fallacy by commercial growers. It is rarely that the trees commence to bear much before their eighth year, even if they have been grafted. The large papershell nuts are exceedingly profitable, bringing from 30 to 50 cents per pound.

Our stock consists of seedlings, selected paper-shells and named grafted trees. The last are, as might be expected, more expensive than those on their own roots, still the very fact that trees of a named variety come into bearing earlier, produce nuts of the same shape, same thickness of shell, with meats of uniform quality, is sufficient testimony to give them the preference even at the increased cost of the grafted tree over seedlings.

SEEDLING TREES

Common Pecan. Grown from selected hard shell nuts. Tree a thrifty, rapid and symmetrical grower producing nuts of average quality.

Papershell Pecan. Nuts of superior quality to the common pecan, trees being grown from the finest selected papershell pecans. Nuts are larger, easily crushed by taking two in the hand; the meat is rich, sweet and easily removed from the shell.

GRAFTED TREES

Frotscher. Originated in Louisiana. One of the best. Nuts cylindrical, tapering slightly; shell thin, parting easily from the kernel; flavor delicate, quality excellent; tree thrifty and productive.

Pabst. Another valuable addition to the list of improved Pecans. Nut cylindrical, moderately large; soft-shell, parting well from meat; kernel particularly well filled, bright and of excellent quality.

Russell. Tree very vigorous and productive. Nut oval, pointed, large to very large; shell very thin; a true papershell; kernel plump; flavor delicate, and of superior quality.

Stuart. Introduced by the late W. R. Stuart, Ocean Springs, Miss. A standard for commercial orchards. Has all the points for a profitable pecan; large size, desirable in shape and fine in appearance; always well filled, meat of good flavor.

Success. A grand nut of recent introduction; is of the largest size, cylindrical and tapering at the apex; shell very thin and parting freely from the kernel, which is full, plump and of the very best quality. Tree vigorous and thrifty and a regular and abundant cropper.

Van Deman. Large and oblong in shape, running 45 to the pound; shell moderately thin; cracks well and yields plump meats of good quality.

THE PISTACHIO

Pistacia vera is the botanical name for the Pistachio nuts of commerce, sometimes called green almond. Very extensively used for coloring and flavoring confectionery, importing a peculiar but agreeable flavor which can not be acquired from any other source. In the domains of the Sultan of Turkey, it is sold on the streets by vendors, who simply prepare the nuts for consumption by boiling them in salt water.

On its own roots, it is of slow growth, being more of a shrub than a tree. We therefore graft all of our trees on the *Pistacia Terebinthus* and *Atlantica*, which are not only rapid growers but are strikingly handsome ornamental trees which are admirably adapted as stocks for the slow growing vera. It thrives best in the warm interior valleys and gives promise of assuming important commercial proportions when the many new and valuable varieties introduced by the United States Department of Agriculture become more widely disseminated. The tree is dioecious, that is the male and female flowers are on different trees. It is therefore necessary to have a tree of both sexes to produce nuts. The nuts are borne on the female tree in clusters somewhat like grapes, but more scattering and are covered by a thin, purplish light green husk.

THE WALNUT. *Juglans*

Among the edible nuts grown in California, none equal in commercial importance the walnut. Under favorable conditions of soil and climate the tree attains an immense size, specimens some sixty feet high, with a spread of fully one hundred feet, being often conspicuous features of the landscape. It prefers a rather loamy, deep, rich soil, finding its greatest luxuriance in the bottom lands in the coastwise regions of this State. No nut yields larger and more profitable returns than the walnut, the tree is practically free from insect pests, and when once established it requires little care as far as pruning is concerned. Good and thorough cultivation is necessary for activity in the growth of the tree, causing

it to respond with bountiful crops. Its geographical distribution is indeed wide, embracing the colder regions, the sub-tropical and even parts of the tropical belt in the mountainous sections.

Many varieties are grown from seed and in most instances, where the seeds are carefully selected, reproduce nuts, fully equal in quality and in thinness of the shell to the parent. It is a well known fact, however, that there is always more or less variation in seedling trees, and we are, therefore, devoting considerable time and care to the working of the standard varieties of the commercial walnuts on the California Black Walnut (*Juglans Californica*) root. This tree is a stronger, more vigorous grower and adapts itself not only to a wide range of locations, but also to soil conditions, where the walnut on its own root would fail entirely. It has a decided influence on the soft-shell walnuts, causing them to grow more vigorously and to come into bearing from two to three years earlier than seedling trees. Indifferent success has been met with in grafting and budding the walnut thus far; the demand therefore always exceeds the supply. Years of careful attention to this special line of work has placed us in the position to supply the leading varieties worked on the California Black Walnut root.

For commercial planting, trees are usually set 40 feet each way, although in some instances where the soil is exceptionally fertile, trees are set 50 feet apart, for as the tree matures, it makes a wide spreading top, so that it is no uncommon sight to see branches even at the latter distance interlacing. The very positive opinion possessed by some growers, that the cutting of the tap root in transplanting young trees injures them to such an extent that the trees never acquire their full vigor and that their bearing qualities are impaired is a mistaken idea. The largest part of the commercial orchards, and very profitable at that, in California today are transplanted trees. The walnut, unlike the general run of deciduous trees, should not be cut back severely in transplanting from the nursery to the orchard. The laterals from the main leader should start about four feet from the ground.

The only pruning needed is in shaping the tree and this is accomplished by causing the branches to have an upward tendency, cutting off those which show an inclination to grow downward. Interfering branches in later years should be removed, but under no consideration should the young growth be cut back as with the peach. The stem is apt to sunburn, so it should be given protection by wrapping with paper or burlap; if obtainable yucca or tule tree protectors are far more satisfactory.

Much of the difficulty in getting walnuts to bear can be attributed to the male blossoms maturing either before or after the female flowers are in the receptive stage. The walnut, pecan, and in fact, all the nut trees, outside of the almond, are mono-

ecious or bisexual; that is, the flowers of both sexes although produced on the same tree, do not occur in the same flower. To overcome this trouble, when planting an orchard, not more than two or three rows of a variety should be planted together, or the rows can even be alternated, and by following out this plan, it is almost a certainty that this barrenness can be overcome.

Several of the French varieties being exceedingly late bloomers are finding very much favor in localities subject to late spring frosts. Strange as it may seem, it is nevertheless a fact, that certain of these types will be just commencing to swell their buds when the ordinary seedlings are out in full leaf.

NEW VARIETIES.

Placentia Perfection. This chance seedling from the Santa Barbara Soft Shell is now generally recognized as a leader in the Southern California counties. The nuts sell for from 1½ cents to 2 cents per pound higher in the open markets. The claims made by the originator, Mr. J. B. Neff of Anaheim, California, have been fully sustained. The tree is a very vigorous grower, in fact, so much so is this the case that it is sometimes difficult to train in symmetrical form. The fifth year from planting it commences to produce nuts in abundance, and it then assumes a good habit of growth. It is a remarkably upright grower and when properly trained can be headed as low as 3½ feet from the ground. Blooms from six to ten days later than other varieties, and the staminate and pistillate blossoms appear at the same time, thus insuring fertility. The nuts are elongated, smooth and very white, being almost as white as the best bleached nuts; shell of medium thickness; meat white, plump and sweet; husks part from the nut readily, leaving it perfectly clean. We consider this nut a valuable acquisition to the list of Soft Shell Walnuts.

GENERAL COLLECTION.

A'Bijou. (Large Fruited). Nuts enormous, the largest of all walnuts; rather irregular in form and deeply furrowed; kernel very sweet.

Chaberte. Originated in France over a century ago by a man named Chaberte, hence its name. Blooms late. The nut is roundish, oval and of fair size; kernel extra fine flavor; a good bearer.

Cut-Leaved. One of the most striking features of this variety is its deeply cut, lacinated foliage, making it a most graceful ornamental tree, worthy to be planted conspicuously in the garden or front yard. The nut is very pretty, fair size, round, with a very smooth shell and sweet kernel.



The Placentia Walnut. Reduced one-third.

Ford's Improved Softshell. Grown from seed of the Santa Barbara Soft Shell, from selections made in 1880 by George W. Ford of Santa Ana, California. The trees are abundant croppers, the nuts are more uniform in size and form; brighter and smoother than the parent, and much superior, in thinness of shell and quality of kernel.

Franquette. The intrinsic value of this great French variety, originated by a man named Franquet one hundred and thirty years ago in the southeast of France is just beginning to dawn on the nut growers of California. It is quite large, of an elongated oval and very attractive form; kernel full, sweet and of a rich nutty flavor, covered by a pellicle which is almost white. The only orchard of any size of this variety is located at Santa Rosa. On April 12, 1905, when other varieties were well leafed out, the buds had just commenced to swell on the trees in this orchard. The nuts command the very highest market price.

Mayette. This is the famous nut imported under the trade name Grenoble into the United States. It also originated over a century ago, and its name is derived from the introducer. Form broad, size above medium, and unequalled as a dessert nut. An abundant bearer, starts very late in the spring, thus escaping disastrous late frosts.

Parisienne. Large, excellent, starts late in the spring. Originated in the southeast of France and on account of its exceptional beauty named Parisienne in honor of the capital of France. The nut is large, broader at the small end than the Franquette and Mayette, and has a very prettish shape.

Praeparturien. Fruits when very young, very productive, producing large crops regularly; flowers late and is therefore not affected by frosts.

Santa Barbara Soft Shell. Originated by Joseph Sexton of Santa Barbara, Cal. The nut is large, shell thin, so that it is readily broken by the hand. The kernel is white, full and sweet. The favorite variety in the southern part of the State.

Weeping Walnut. Droops like a willow, hence the name; highly ornamental; good bearer and good nut.

NATIVE VARIETIES

American Black. Juglans Nigra. (Eastern Black). So called by reason of having been produced from seed imported from the East. Attains great size and is of majestic habit; the nut is of medium size, very dark and somewhat furrowed hard.

California Black. (Juglans Californica). An exceedingly rapid growing tree, indigenous to central and northern parts of the State. Stands transplanting readily and is a fine stock for budding and grafting. The nut is of medium size, shell very hard and smooth; kernel rich and oily. The tree attains a great height and it is no uncommon sight to see trees 100 feet high, with a corresponding spread of branches.

JAPANESE VARIETIES.

Cordiformis. The tree is a rapid grower and bears at four years from the seed, and is said to attain a great age. As a dessert nut it has few superiors; the kernels are of a peculiar heart-shape which can be readily extracted whole by boiling the nuts for about five minutes and cracking them while still hot. The meat is very sweet and is used very extensively in the form of candied nuts.

Sieboldi. Tree is very vigorous and of handsome form, with immense leaves, having a charming shade of green; the nuts are produced in clusters, shell smooth and much thinner than the native American Walnut; the kernel is sweet, has the flavor of the butternut, but is less oily.

We have now to acknowledge a copy of "The Smyrna Fig at Home and Abroad," by George C. Roeding, and in doing so must emphatically state it is the most interesting horticultural publication that has ever reached this office. The paper cover, with its decorative fig leaf design; the colored frontispiece, showing the yellow and apparently luscious Calimyrna fig; the numerous illustrations, descriptive of pruning, grafting, planting, harvesting, drying, marketing, etc., all tend to render the publication attractive to the eye, a pleasing detail, especially when in combination with letter press of an instructive readable character.—The Leader, Melbourne, Australia.

THE FIG IN CALIFORNIA

It is safe to assume that not many years will elapse before California will be producing enough figs to give her the same prominence in the horticultural world as a fig producer that she has already attained in the production and successful marketing of other fruits. That she has not become more prominently identified in this great and promising industry is directly attributable to the fact that her dried figs have been inferior to those imported from Smyrna, Asia Minor, which have been famous the world over for hundreds of years. The United States today consumes more Smyrna figs than any other country in the world, and even the import duty of 1½ cents per pound has never proved an obstacle to an increased importation from year to year. A mere comparison of California's annual production of 2750 tons against 20,000 tons in Smyrna, indicates what is in store for the horticulturist whose soil and climatic conditions are favorable for perfecting the fig.

Figs grown in the United States, either for eating fresh or for drying are of one species, viz., *Ficus carica*. All told there are in the neighborhood of 200 or more varieties in cultivation.

To the oft repeated question how does the fig produce fruit without first setting flowers, the reply is that although to all outward appearances devoid of bloom, nevertheless there are thousands of flowers inside the fruit closely grouped around the rind, which is really the receptacle for them. As these inconspicuous flowers, though lacking all the beauty of those found in most deciduous fruit trees, form a basis for the proper classification of the fig, they will be considered briefly, so as to convey a clearer understanding of the subject. The groups are designated as follows:

Male Flower. Found with rare exceptions only in the wild or caprifig, the parent fig of all the cultivated types. Each flower has four stamens.

Female Flower. Are only found in the edible type of figs, and rarely in the caprifig. Their very close confinement makes their fertilization very difficult and even then it can only be accomplished by one insect, which was created for no other purpose. The flowers consist merely of a style, stigma and ovary.

Mule Flowers. These are imperfect female flowers, so constructed that they can not be fertilized, therefore do not produce seeds. These flowers are found covering the entire interior of the cultivated figs, which, although they mature their fruits, the seeds are barren. These figs are designated under the head of the Adriatic type.

Gall Flowers. Are found only in the caprifig tree, and it is in the ovary of these flowers that the minute wasp *Blastophaga grossorum*, breeds and passes through its various stages before reaching maturity.

HOW THE FIGS ARE CLASSIFIED.

Caprifigs or Wild Figs. These come first, for it is from them that all cultivated types of figs have sprung. They produce male, female, and gall flowers, but never mule flowers. Their value lies principally in the fact that they furnish a home for the fig wasp and have one crop, the Profichi, with an abundance of staminate pollen producing flowers.

Smyrnas. Are found growing principally in the great fig district 40 miles distant from Smyrna, Asia Minor, also in Greece and to a limited extent in Southern Italy. They differ from the common type of figs principally because their female flowers if not fertilized by transferring pollen from the wild or caprifig through the agency of the fig wasp, *Blastophaga grossorum*, or artificially, the figs when about the size of a marble dry up and drop to the ground.

Adriatics. These are the common fig which have been grown in California since the advent of the Mission Fathers, their flowers with occasional exceptions are all mule flowers. Through years of cultivation they have acquired the faculty of producing very good figs, which from a technical standpoint are imperfect, the seeds being hollow shells.

LOCALITIES FAVORABLE FOR THE FIG

It is safe to say that no deciduous tree grown in the semi-tropic and temperate zones, will adapt itself to a wider range of climates and soils than the fig. Figs can be used for such a variety of purposes, namely: drying, caning, preserving, shipping in the fresh state and for home use, that a wide range is open for their successful exploitation. To produce the finest dried figs, with the thinnest skin and rich in sugar, a warm dry atmosphere is an important factor. They will withstand a temperature of 18° fahrenheit in the winter months, without being injured. Hence their geographical distribution is very wide, em-



Pruning the Fig Tree.

1 First Year. 2 Second Year. 3 Third Year.

bracing all portions of this State, the sheltered sections of Arizona, New Mexico and southwestern Texas, the extreme southern States, Old Mexico, the Hawaiian Islands and Australia.

PLANTING AND PRUNING

Bear in mind that the fig tree is of a spreading habit and is also a great surface feeder, and therefore avoid planting the trees too close together. On the general run of soils 25 feet on the square system is a good standard which may be increased if soil conditions warrant, but trees should never be planted closer for commercial orchard purposes. As the fig tree is long lived and will in time occupy a large area, it is practicable to plant trees 40 feet apart alternating with other fruit trees which may be removed in later years. As a border tree for inclosing orchards and vineyards, or for aligning avenues, it not only makes a striking effect but is also very profitable.

Although the fig will stand all kinds of neglect after it is established, too great emphasis cannot be laid on the close attention which must be given in transplanting the trees from the nursery to the orchard. The roots of a fig tree are very susceptible to exposure, hence should be carefully covered in transferring from the trenches to the field. Before planting cut off all bruised and lacerated roots and make a fresh cut on all other roots, so they have a smooth clean surface. The tree when planted should not stand over two inches deeper than it stood in the nursery row. Never neglect to water immediately after planting. No greater mistake can be made than to wait for rain or for water to be turned into the irrigating ditches. After the tree is planted, cut back to twenty inches from the ground, and cover the wound with rubber paint of grafting wax.

The first winter cut the branches back to about 12 inches, leaving not more than four to make the head of the tree. Have these distributed in such a manner, so that there will be sufficient room for them to expand without crowding as the tree grows older. The following season cut off not less than one-half of the new growth, leaving not more than three shoots on each of the previous year's branches. Any branches on the underside of the limbs and having a tendency to droop to the ground should be removed. The third season shorten in the new growth about one-third, leaving the same multiple of branches on each of the previous years shoots as were left the year before. In after years the pruning is limited to the removal of branches which cross or interfere with each other. Young trees should always be protected with tree protectors to prevent sunburn. The fig tree is just as responsive to good care, thorough cultivation, as any other variety of fruit tree, and the bearing capabilities will be commensurate with the care bestowed on the trees while young. But very little fruit is to be expected until the trees are four years old.

RELATION OF THE SMYRNA TO THE CAPRIFIG.

As has already been explained the Smyrna or edible figs are dependent for their development on the caprifig, which is a distinct tree from the edible type of figs. Its only value lies in the fact that it serves as a home for the little wasp, *Blastophaga grossorum*. The Smyrna figs set fruit as early even as the first year and some of these fruits would mature, providing the caprifigs were old enough to produce figs containing the insect. **The first four years growth of the Smyrna and caprifigs should be devoted to securing a sturdy well-balanced tree, hence any attempt to deviate from this plan in an endeavor to secure early bearing means that the vitality of the tree will be impaired.** The caprifigs even in the second year will in some cases produce the first or Profichi crop, but as there are no succeeding crops to take care of the several generations of the insect, it has no place to deposit its eggs, and therefore can not perpetuate its species, and is lost. Through a wise provision of nature in this case the well being of the tree is conserved until it arrives at the age it should have regular crops. When the trees reach their fourth year they (particularly Roeding's capri No. 1) produce all three crops of caprifigs, the Profichi already referred to, appear in March and reach maturity in June; the second crop called Mammoni, pushes out in the latter part of that month and matures in September, when the third crop, Mamme, then makes its appearance. The insect enters this crop, lays its eggs, which develop as far as the larvae form, when the growing season stops, and at the same time the evolution of the insect ceases.

These figs remain on the trees all winter and are as firm and hard apparently as bullets. In the spring, when the new growth starts on the trees, the caprifigs commence to grow, and at the same time the wasp passes through its various stages until it reaches maturity. The female insect, which is winged, passes out of this crop and enters the Profichi crop, the gall flowers of which are then in the receptive stage to receive the eggs. The wasp develops in the following manner: The male is wingless, while the female is winged. The male always emerges from the gall, first, crawling around in the caprifig, pierces the gall containing the female with its powerful mandibles and impregnates her. She then enlarges the opening made by the male, and in passing out of the fig comes in contact with the male flowers surrounding the orifice, which are then mature, and gets her body and wings dusted with pollen. At this stage, which is readily determined by breaking open a fig, for the insects, both male and female, will be found crawling around inside, the figs are picked off and hung up in the Smyrna fig trees. A single caprifig contains from two hundred to fifteen hundred wasps. Within a very short time the workman knows by the outward appearance of the

fig if it has reached the proper stage of ripeness. All the succeeding crops of caprifigs have no male flowers, and this being the case, even if a wasp should find figs to enter they would never mature, for their flowers could not be fertilized.

The male and female wasps are readily distinguished, the former being of a reddish cast, while the latter is black and winged. The complication which many people imagine in connection with the distribution of the caprifigs seems ridiculous when it is borne in mind that the ignorant peasants do this work in Smyrna without having the slightest conception of the matter, not knowing the male from the female insects. All they do know is, if they do not have this bug their crop is a failure. With all their ignorance, they harvest from twenty to thirty thousand tons of figs annually, and the failure of a crop is almost unknown there. Climatic conditions are not as favorable there as here, for it is often very much colder in winter. If the winds do not happen to come from the north in the summer, it remains cool, and early rains cause the crop in some seasons to be seriously damaged.

RECEPTIVE STAGE OF THE SMYRNA FIG.

The Smyrna fig is only caprifiged once in the season. On the Roeding place this work commences about June 10 and continues until July 1. Smyrna figs are in the receptive stage when they present a glossy green appearance. At this time the figs at the largest part will measure three quarters of an inch across and the flowers will be waxy white. Fortunately all the caprifigs do not mature at the same time nor are the Smyrna figs receptive in a single day, otherwise in large holdings it would take a big force of men to carry on the work. In four to six year old trees, from four to ten caprifigs should be hung in each tree, but if there is a plentiful supply of infested caprifigs it will do no harm to suspend a larger number. Trees from ten to forty years old will require from twenty to fifty figs to each tree. The cost of caprifigging is a small item of expense, trees from four to eight years old will graduate from 25 to 50 cents per acre and in older orchards the expense has never exceeded one dollar per acre.

HOW THE CAPRIFIGS ARE DISTRIBUTED.

The caprifigs are gathered in baskets, picked off where they can be readily reached from the ground, or are knocked from the tree with bamboo poles when beyond reach. This work should start at daylight while the figs are cool, for the flight of the insect commences just as soon as the individual fruits have become slightly heated by the sun's rays, and continues with interruptions for a period of four hours, covering a period of six to eight days from a single fig and occurs at about the same hour each day until all the female wasps have made their

escape. The men gathering the figs, dump them into a large pile in some central point in the orchard. They are then taken in hand by another crew, who string the figs on raffia fibre, using a darning needle for piercing the figs. String will serve, but raffia is much softer, cheaper and better. The figs should be pierced in the fleshy part near the stem end. The number to a string is usually ten, the first and end figs

will be forwarded by us as soon as the wasps commence to issue from the Mamme figs. Application for the wasps should not be made until the caprifig trees are four years old. The figs should be strung up in the same manner as is followed in suspending the infested figs in the Smyrna trees. Three to four figs in each tree is sufficient for colonizing the insect.



Cross-Section of the Caprifig Fruit. (Profichi Crop).

being held in place by a half hitch. After the figs are strung, they are thrown up into the trees with a dexterous twist, causing the string to wind around a branch. Whenever possible, have the string suspended in a shady spot of the tree. The work is further facilitated on the Roeding Place by hanging a wire basket in each tree, which will hold from eight to ten figs. This basket is four inches square, one and one-half inches deep and is made of five-eighths mesh. The basket is suspended by means of light copper or iron wires, which are wound around a branch in a shady part of each tree.

Caprifig Trees. These should be planted in a group by themselves in a protected situation in the orchard, or they can be planted around the home as shade trees, being very desirable for this purpose. The figs when they drop dry and shrivel up, and do not make a mess under the tree like the edible figs. For every twenty-five Smyrna figs plant one caprifig tree.

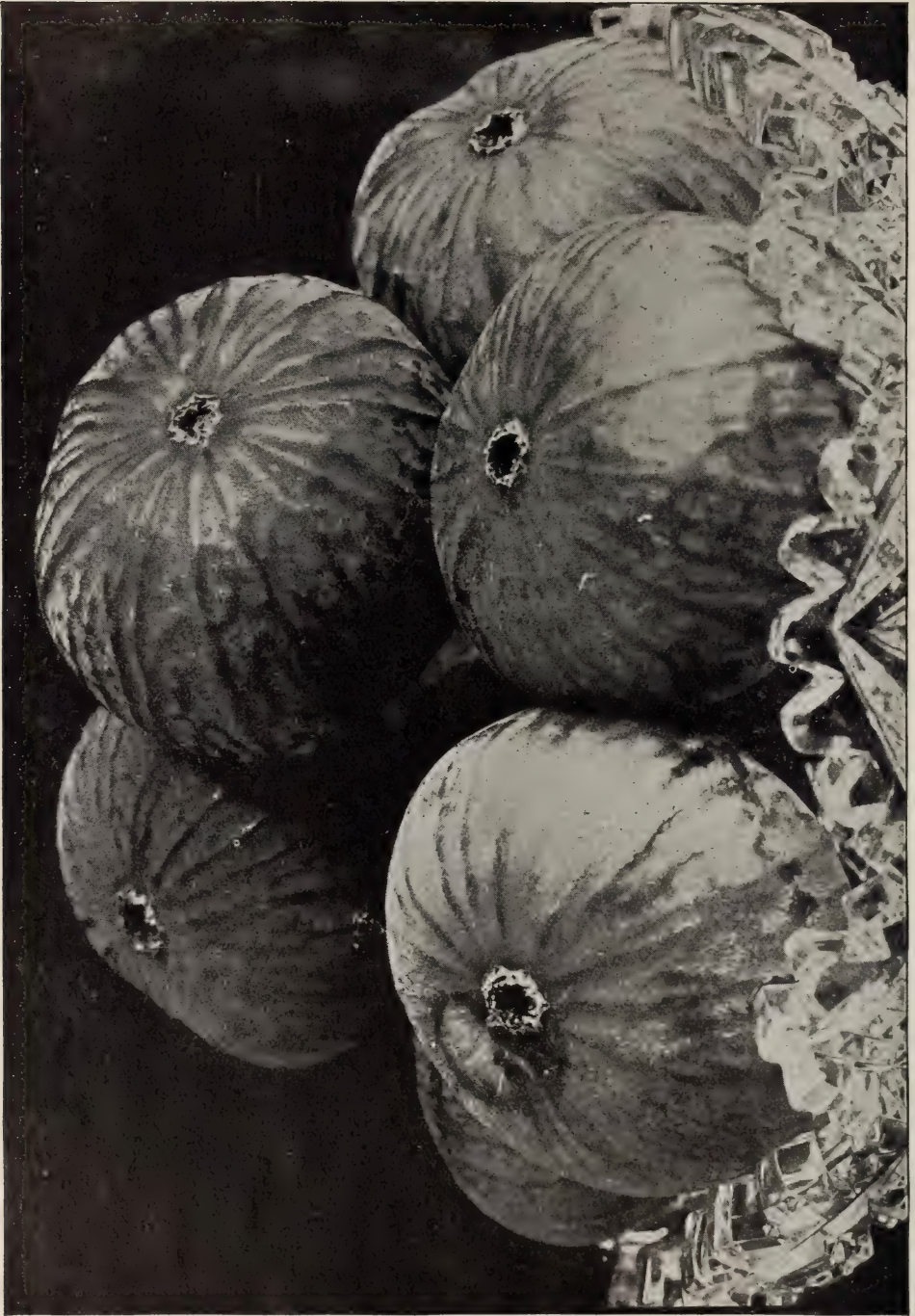
Supplying Insects. To all purchasers of Calimyrna Figs, we supply enough infested caprifigs for the purpose of colonizing the wasp in their caprifig trees free of charge. Applications for these infested figs should be made in the latter part of March or early in April, when the figs

A WORD OF CAUTION

Rumors are being constantly circulated, evidently by persons entirely unfamiliar with the subject, that Smyrna figs do not bear like the White Adriatic, all of which is a mistake. The fact of the matter is they bear fully as much and simply because there are apparently not so many figs on the trees does not indicate that the weight is not there when the fruit is dried. Fully 25 per cent of the White Adriatic are too small to be packed, while of the Smyrna figs the average is from 3 to 5 per cent. A sweat box of Smyrna figs will weigh from 20 to 30 pounds more than a box of the same size containing White Adriatic.

Can any intelligent fruit grower afford to raise a fruit which, no matter how processed, can never be regarded as a first-class article? It is no uncommon thing for 50 to 75 per cent of the Adriatic figs to sour on the trees before the drying season is half over, while with the Smyrna type such figs are only found after a heavy rain fall or after the harvesting season is practically closed, when rather unusual cold weather will cause the figs to sour.

Today the Adriatic figs are packed and sold not because they appeal to the trade, for they do not. They have absolutely nothing to recommend them to the consuming public except that they are cheap, and



The Calimyrna (Genuine Smyrna) Fig, natural size.

because many people do not know what a good fig is. When the Smyrna figs are produced on a more extensive scale, the White Adriatic will be relegated to the place they belong—hog feed. It is to be regretted that these figs were ever placed on the market, for their sale has done so much injury to the business, that it is difficult to convince the trade of today that California can really produce a good fig.

Thus far our experience has been that there is only one variety of the Smyrna fig which makes a high grade dried fruit, and this sort we have designated as the CALIMYRNA, which is identical with the one so largely exported from Smyrna. The name Lop Injir given to this variety, means nothing more nor less than sweet fig, Lop being the Turkish word for sweet, and Injir, meaning fig.

In conclusion allow us to say, this nursery has never offered anything in the tree line to planters unless we were convinced that it had merit. We have had enough confidence in the future of the industry to increase our own acreage from 60 to 220 acres.

For more detailed information, we beg to refer those interested to the monograph "The Smyrna Fig at Home and Abroad," by our Mr. George C. Roeding. Price 50 cents.

THE SMYRNAS

Calimyrna. The genuine Smyrna fig packed under the name of "Erbeyli" (signifying fine fig) in Asia Minor, and known in Turkish as "Lop," and in Greek as "Lopia." Large to very large; turbinate, pyriform; very short, stalk short; ribs distinct, orifice large, of pale ochre color and widely open when the fig is mature and before shriveling; skin lemon-yellow; pulp reddish-amber, sometimes pale amber, turning to dark amber just before falling; seeds large, yellow, fertile, over-spread with a clear, white syrup, giving the fruit a richness and meatiness unsurpassed by any other fig. Tree of spreading habit, leaves medium to large and five lobed. The dried figs contain 63-92 per cent sugar, which is $1\frac{1}{2}$ per cent more sugar than found in the imported Smyrna Fig. Dries readily and with less trouble and expense than any other fig, dropping to the ground of its own accord, being practically dry when it falls and requiring when placed on trays, only from two to three days exposure to the sun. **This is the world-famous fig of commerce.**

Bardajic. Derives its name from its close resemblance to the form of a water jug used by the people of Smyrna. Very large, obovate, acute pyriform; neck long; stalk long; skin very thin, greyish-green, ribs distinct, light grey, sprinkled with small dots of the same color; orifice deep red; pulp rich, deep crimson; seeds fertile and numerous. Tree a compact grower and of very spreading habit; leaves large and usually five lobed. A magnificent table fig and the largest of the Smyrna class.

Black or Purple Smyrna. Small, globular, stems short; no neck; skin very thin, purplish, with prominent light greyish ribs, sprinkled with round brownish dots; pulp dark amber; a most delicious fig to be eaten out of the hand. Dries well, but too small for commercial purposes. Tree a dense compact grower, giving a shade as dense as the Texas Umbrella; leaves small, five lobed, slightly serrated.

Black or Purple Bulletin Smyrna. Fruit large to very large, obtuse pyriform, neck short, stalk long; skin light purple, streaked and ribbed with grey and sprinkled with small brown dots; pulp reddish-pink, very rich and luscious; seeds large and as usual fertile; orifice open when mature and very small. A superb fruit, both in the fresh and dried state.

Checker Injir. Signifying "Sugar Fig," and grown in the Island Scios. Tree a very strong grower, branches heavy and closely jointed; of upright growth; leaves very large, deeply lobed and slightly serrated; fruit roundish, oblate, short neck; pulp reddish-pink, seeds small, fertile; skin greenish-yellow, very thin; ribs distinct; light green. Dries well.

Kassaba. Medium to large, almost globular, somewhat flattened at apex; short neck and stalk; orifice decidedly large and open; skin pale green; pulp reddish pink; in the fresh state, the sugar content being higher than in any other variety. Makes a superb dried fig. Tree a beautiful upright grower, without question the handsomest of the Smyrna varieties.

THE WILD OR CAPRIS

Are readily distinguished from the foregoing by their slender branches and radically different habits of growth. This is a very extensive group, covering a wide range of territory and embracing a great many species and varieties. Our present collection comprises three varieties which are designated by numbers, the correct names not being known. **Must be grown in connection with every Smyrna fig orchard.**

Capri No. 1. A very rapid, vigorous grower of spreading habit and with very large leaves. Produces an abundance of all crops; Profichi, Mammoni and Mamme, and also matures the first Profichi. Particularly valuable on account of its producing all the crops necessary for successfully carrying through all the generations of the Blastophaga.

Capri No. 2. A very upright grower, branches very slender; leaves small. Produces an abundance of the Profichi crop, maturing somewhat later than the foregoing, in which its value principally lies, as it lengthens the season of caprification of the Smyrna Figs.

Capri No. 3. A decidedly distinct variety, branches much heavier and more closely jointed, than Nos. 1 and 2; leaves small and serrated. Figs of the Profichi crop very large, heavily ribbed and developing a larger number of galls with insects than either of the other two varieties. A rather uncertain bearer of the other crops.

THE ADRIATICS.

Agen. Fruit medium; roundish; skin green with brownish tinge; flesh dark blood red color; delicious.

Angelique. Medium; pyriform; skin whitish-yellow, pulp red; of good quality when mature.

Bellona. A fine French fig, fruit large, pyriform; dark purple; flesh red; leaves dark green, very glossy; fine flavor when dried.

Bourjassote Panache. The most ornamental of all fig trees; upright grower; branches beautifully marked with green and yellow stripes; fruit medium, pyriform, exquisitely marked with green and yellow stripes; pulp sweet.

Brown Ischia. A small, brown fig, pyriform, when fully ripe of a deep brownish-red color; tree especially valuable as a shade tree, its crown forming a fine umbrella, with densest shade; as a fruit and shade tree the Brown Ischia is valuable; as a fruit tree alone it has many superiors.

Brown Turkey. This is a very large fig; color violet-brown; the earliest large fig in the San Francisco market.

Cargigna. Fruit medium; light yellow; flesh amber; a most delicious table fig; June and August.

Cernica. Fruit medium, ovate; skin deep purple, dotted with white specks; flesh deep carnation red; tree of drooping habit and rapid grower; ripens fruit from August to November.

Grise. Fruit medium, oblong; no neck; skin light blue, very thin; pulp of a rose color; sweet, rich and delicious; an excellent fig for the table; tree a strong grower with leaves resembling very much the White Adriatic.

Mission. (California Black.) The large black fig most common in California. It is a good grower and bearer but not a fine fig in other respects; we believe this fig to be identical with the Bordeaux fig of the French.

Moissonne. A medium-sized fig, turbinate, stem long; dark purple, covered with blue bloom; pulp coarse, but sweet; August.

Rose Blanche. Fruit medium; oblate; skin exceedingly thin, deep purple; pulp deep red; valuable for the table or drying.

San Pedro Black. Very large, elongated, ovate, no stalk; skin smooth, violet black with green neck; pulp red, coppery tinted violet. One of the largest of figs; excellent for table use.

San Pedro White. (Fico de San Pietro,) "Apple Fig." The largest and handsomest early fig in existence, with excellent flavor and sweetness; skin golden-yellow, shaded green; very palatable; ripens in June.

Verdal Longue. (Sultana, Verdal Honde.) Fruit large, turbinate; skin green when ripe; pulp of a carnation-red color; very rich, sweet and aromatic; tree a peculiar grower, branches all drooping downward, and almost touching the ground. A most delicious, and highly flavored fig; October.



Manzanillo O ve.

White Adriatic. Introduced from Sicily and has been more extensively planted than any other variety for drying purposes. Fruit large, skin greenish-yellow color; pulp carnation-red; ripens from August to October. Will undoubtedly be displaced by the Smyrna class of figs on account of its very inferior flavor and inclination to sour on the tree wherever planted.

White Celeste. A very small fig of amber color; fine for preserves and crystallizing.

White Endich. A medium sized white fig; skin thin, golden-yellow when fully ripe; pulp white, slightly tinged with rose towards the center. Tree a rapid grower and an enormous bearer. Successive crops from August to November; valuable for drying, canning and pickling.

Zimitzia. Fruit large, pyriform; skin very thin; greenish-yellow; pulp amber, sweet and delicious; tree a very rapid, spreading grower; leaves deeply lobed; July.

THE OLIVE

The Olive has long been a recognized fruit in countries where the Latin races predominate, and especially is this true of the South American Republics, Old Mexico, and it will no doubt find conditions favorable to its culture in Australia. Its requirements of soil and climate are such as to commend it for planting on the higher plateaus and foothills and in the mountain valleys of nearly all tropical countries, and particularly those aligning the Pacific Coast to the south, where there is a great similarity of climate and soils to those prevailing in California and the Mediterranean region, the recognized home of this fruit, and where it has attained its widest economic importance. In California the Olive has long since passed the experimental stage, and is now produced in quantities, both for its oil, as well as for pickling. That it is destined to occupy a position of equal importance in the horticultural development of Latin America has long been admitted by students. It is necessary to have a mean average of 57 degrees Fahrenheit and at no time must the temperature go below 16 degrees above zero to carry on the culture of the Olive with any degree of success.

Unlike all other fruits having their origin in the old world, no attempt has been made by growers to adopt the trade names of Europe in marketing their product. This creditable independence of the growers is being recognized throughout the United States by consumers, and California Olive Oil combined with the name of an established firm, is synonymous for the purity and high grade of the product. Our growers were the first to demonstrate the practicability of pickling the olive when fully ripe and by canning or bottling them, preserving them for an indefinite length of time. The ripe olives with all their cells filled with oil are a delicious, healthful food and are so delectable that they appeal to the most fastidious persons as a high grade article.

PLANTING AND PRUNING.

In filling orders for olive trees, we make it an invariable rule to cut all trees down to either three or four feet according to the age of the tree and shorten all side branches to six inches. If this work is neglected when the trees are dug, they will invariably die. Great care should be exercised by the orchardist not to expose the roots of the olive and in moving trees from one place to another, the roots should be wrapped in a damp sack.

Before planting all bruised and damaged roots should be cut off and the remainder trimmed slightly in order to have a fresh

clean cut for the new roots to start from. Trees should be planted from two to three inches deeper than they stood in the nursery rows and should be cut back to twenty inches from the ground and all lateral branches shortened to four inches. The first winter after planting the branches forming the head of the tree should be cut back one half, leaving not more than five to form the head of the tree. The following winter all but one shoot having an upward tendency and starting close to the point where the branches of the previous year were cut should remain and this new growth should in turn be shortened in. In the third winter the thinning and cutting back of the new growth should not be neglected, but the shortening in of the lateral branches should not be so severe as in the first two seasons. The pruning of the olive for the first five years of its existence should be carried out with a view of acquiring a vase shaped tree. This method if carefully followed will develop not only strong, well braced and sturdy branches capable of supporting an enormous crop, without resorting to artificial means to prevent the branches from breaking and also will insure regular bearing.

In addition to having a well balanced tree, the constant and systematic pruning causes a large number of fruit bearing branchlets to grow, and a well shaped tree will have an enormous bearing surface, with the fruit not confined to any particular part but hanging from the spreading branches close to the ground as well as those at the top. Pruning should be carried on every year for it maintains a well-balanced head promotes the growth of young wood and facilitates the gathering of the crop by holding the rampant branches in check, which would otherwise destroy the symmetry of the tree. Unpruned trees send up a tangled mass of growth which in ten years (when the tree should be in its prime) degenerate into a lot of ugly bare stems with only a few fruit bearing branches at the top.

Trees should never be planted on cold or wet soils, nor in sections where biting frosts are apt to occur during the blooming period, which precludes the possibility of its bearing crops. "The Olive grows to perfection," says the *Cyclopedia of American Horticulture*, "in good soils throughout the length and breadth of the San Joaquin and Sacramento valleys; in many of the smaller Coast Range valleys, and up to an elevation of 1000 feet or more in this range, and in the warm belt of the foothills of the Sierra Nevada Mountains." It is also a pronounced feature of the landscape in all the Southern counties of the State, and in the Salt River Valley of Arizona. In localities where there is not sufficient moisture by rainfall, irrigation is essential to profitable production. Nearly all the varieties enumerated by us have borne fruit, and our remarks in refer-

ence to them are borne out, in many instances by actual tests made by us, or by the Department of Agriculture at the University of California, to whose reports, as well as to the reports of the State Board of Horticulture, we beg to refer our customers.

Ascolano. White Olive of Ascoli." (Italian.) Fruit large, comes into bearing early. Among the best of the Italian varieties for pickling.

Atrovialacea. (French.) Olives of medium size, and when fully ripe of a deep jet black color. A good oil variety, rather small for pickling. Said to be an excellent olive dried; October.

Corregiolo. (Italian.) Makes a very high grade of oil and highly esteemed by Mr. E. E. Goodrich of the El Quinto Olive Farm, Santa Clara.

Cucco. (Italian.) A large olive, valuable for pickling.

Lucques. (French.) Tree a strong, upright grower, fruit varying from medium to large and of a peculiar crescent shape, the pit being similarly formed. When fully ripe, the fruit is of a shining bluish color. Makes a very good quality of oil and prized very highly as a green pickle, being known to the trade as the "Crescent Olive." Requires very careful manipulation.

Manzanillo. (Spanish.) Introduced by Prof. Pohndorff from Spain, of whom we obtained the first truncheons. Among the olives of Southern Spain, especially around Seville, the Manzanillo is highly prized both for pickling and oil; the fruit is very large, of a deep black color dotted with white specks when fully ripe; the tree is a straggling weeping grower. One of the best olives for this valley, very hardy and a prolific and regular bearer. Makes fine green and ripe pickles of the very best quality, and produces oil of a very high grade; October.

Manzanillo No. 2. (Spanish.) This is an entirely distinct variety from the above; was received at the same time. Tree is a rapid grower, branches shooting upright and forming a very dense compact head. Fruit quite large, oval in form, with a very distinct tit at the end. Valuable for green pickles. Very rich in oil; late.

Mission. (Spanish.) This old standard sort, introduced by the Spanish padres, is probably more extensively cultivated than any other variety. Fruit medium to large, and makes an excellent pickle, either green or ripe, as well as a superior oil. The tree is a handsome, rapid, upright grower, and as an avenue tree, surpasses all other varieties. Adapts itself to a wide range of locations and is a regular and almost constant bearer; November.

Nevadillo Blanco. This is the olive generally grown in the south of Spain, producing the finest oil of commerce. Fruit medium, deep black; tree a rapid grower

and an immense bearer; branches weeping; grows well on the coast and interior; yields an abundant supply of oil of the very best grade, and makes a pickle superior to all others in flavor; medium sized.

Obliza. (Dalmatian.) This is an exceedingly large olive; oval, but broad and rounded at both ends; borne in clusters on the stems. The tree is a good grower;



Sevillano or Queen Olive.

the branches are somewhat inclined to droop; the foliage is large, thick and of a deep dark green color; very hardy and productive, and worthy of extensive cultivation. Excellent for pickles, and will find a ready sale in this shape, the fruit presenting a very fine appearance; November.

Pendulina. (French.) The tree is a strong, upright symmetrical grower; the fruit grows in clusters and produces a high grade of oil; lacking firmness is undesirable for pickling; October.

Picholin de "St. Chamas." (French.) The trees of this variety require good soil, and amply reward with heavy crops all extra care. The fruit is oblong and reddish-black when ripe. Pickled green, they are a leading article of commerce in the neighborhood of St. Chamas, France. Possesses a very delicate flavor and said to be one of the best.

Razzo. (Italian.) An olive from the Lucca district; oval, medium size or below; it yields in its native country the finest grade of oil.

Rubra. (French.) The tree is a very vigorous, upright grower, succeeds in drv. hilly soils, almost unfit for the growth of any tree. The fruit is best suited for oil; gives an oil of the very highest grade. Fruit medium size, bears heavy and regular crops; November.

Sevillano. (Spanish.) The tree is a strong grower, leaves green, greenish-white on the under side. The largest of olives, and the variety exported from Spain under the name of "Queen Olive." When ripe of a bluish-black color; flesh adheres to the pit. A regular bearer. Only fit

for green pickles; ripens early; its large size and earliness is sure to cause it to be in demand; October.

San Agostino. (Italian.) A very large olive; when ripe bluish black, with white specks. One of the standard varieties for pickling; October.

Santa Caterina. (Italian.) Almost as large as the preceding; very similar in shape. Fine for either green or ripe pickles. Should be more extensively planted.

Uvaria. (French.) A valuable olive for oil. Grows on rich and poor soil and its production is good on either. The fruit is of medium size, borne in clusters resembling grapes; when fully ripe it is of a dark blue color.

CITRUS FRUITS

THE ORANGE

Though taking its inception in the warm belt of the Southern counties of the State, citrus culture has gradually found its way farther north year by year, until at the present writing, oranges and lemons are successfully grown within the very shadow of Mount Shasta; in Arizona—notably the Salt River Valley—and in many portions of Old Mexico. The sheltered nooks and interior valleys of the Sierras, the thermal belts in Placer, Kern and Tulare counties, the regions free from biting frosts in the great valleys of the San Joaquin and Sacramento, all furnish conditions of soils and climates in which the orange and the lemon luxurate.

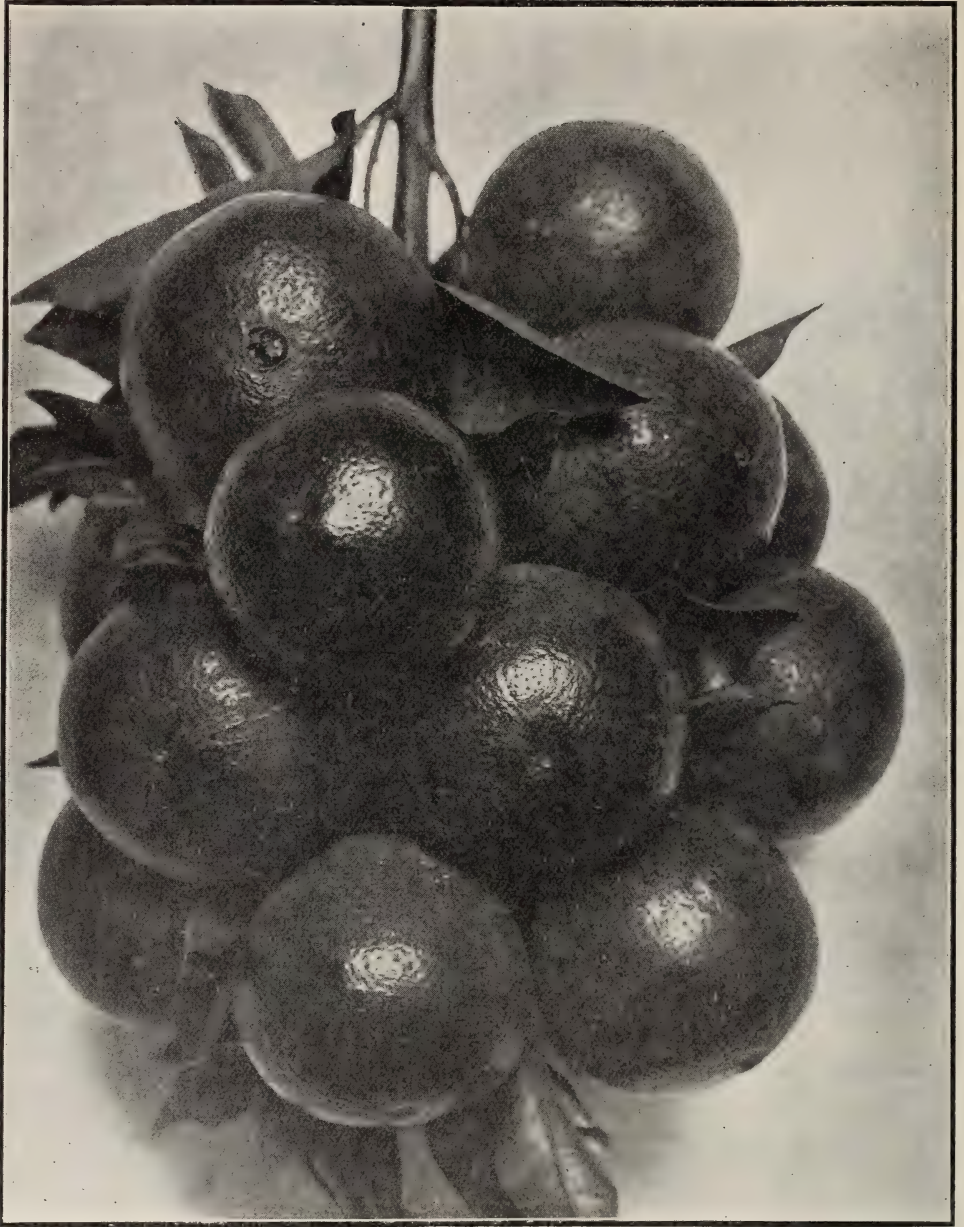
That citrus culture is one of the great and growing industries of California can no longer be questioned when it is borne in mind that the shipments were not less than \$15,000,000.00 annually. These figures indicate the magnitude of the industry and present evidence of its substantial character and opportunity for its future development.

Citrus trees are either dug with a ball of earth varying in weight from 35 to 50 pounds, or they are taken up with naked roots. The former method is usually followed in handling trees in California. Freight charges on stock handled in this manner are heavy, still the satisfaction of knowing that with ordinary care every tree will grow, offsets the slight additional expense incurred in transportation charges. Trees taken up in this way can if necessary be kept in a shed for several months before planting, if the balls of earth are watered occasionally. In taking up trees with naked roots the greatest care should be exercised on the part of the orchardist to

avoid exposure. When set, the leaves should be stripped off to retard evaporation and loss of sap in consequence. In planting set the trees so that when the soil is settled the union of the bud with the stock will be at least a couple of inches above the ground.

Seedling trees should be planted not closer than 30 feet on the square method; budded trees from 22 to 24 feet, with the exception of such varieties as Satsumas, Limes and Kumquats, which are of a dwarfish habit, and should be planted from 12 to 15 feet apart.

Our citrus trees are headed about 26 inches from the ground, hence all that is necessary in planting is to shorten the branches forming the head to eight inches. Trees headed at four feet or more should be cut back to 28 inches for the purpose of forming a new head. High headed trees are always objectionable, for they not only expose much of the stem causing sunburn, but in addition to this the tree is retarded in acquiring a sturdy compact growth. In pruning, above all things do not be deceived into the idea that the trees must be thinned out to admit air and sun. The tendency of nearly all the budded varieties is to weep, so in shaping the tree cut to a lateral which has an upward tendency. For the first four years, except to check the growth of rampant and interfering branches, for the purpose of securing a well rounded symmetrical head little or no pruning is necessary. As the tree develops, dead branches and those which are no longer fruit producing should be removed annually. A well pruned orange tree should present a compact mass of foliage with none of the branches exposed to view. Never neglect to protect the stems of young trees. Wrap with burlap, paper or tules, but the best and most serviceable tree protector is one made of yucca fibre. This allows a free



Washington Navel Oranges.

circulation of air around the stem of the tree. The protection of the stem prevents the development of suckers and obviates the danger from sunburn, while the top growth is stimulated.

In most localities during the summer months citrus trees must be irrigated every four weeks. In heavy adobe soils every precaution should be taken not to allow the water used in irrigating to touch the stem as it will cause gum disease.

For many years we have realized that citrus culture, already one of the great and

thriving industries of California, must in the natural course of events, find a field for successful prosecution not only in many of the recent acquisitions and dependencies of the United States, but also in many other countries with tropical and semi-tropical climates. With these conditions before us, the necessity of growing our own trees became so pronounced that the Roeding and Wood Nursery Company was incorporated, which firm is an integral part of the Fancher Creek Nurseries.

All of our stock is grown in Exeter, along

the foothills, the great thermal belt of Tulare county. The trees are planted in a heavy, black loam permitting the taking up of balled stock in first class shape. No fertilizer is used and in consequence of this, our trees when the planting season arrives, are sturdy, well matured—are in fact, perfect specimens. The iron in the soil gives the foliage a deep, lustrous green, healthy color, and this in itself makes the stock attractive to dealer and planter alike.

NEW VARIETIES.

Golden Nugget Navel. Originated by R. M. Teague of San Dimas, California. Tree a vigorous grower of good habit, thornless; foliage dark green, abundant lateral or fruiting branches, and very symmetrical, easily distinguished in a grove of other varieties. The tree presents a rather umbrageous appearance due to the slender willowy growth of the younger branches. The fruit is of a deep golden color, very smooth, solid and thin skinned, the exterior being strongly suggestive of kid gloves to the touch, so smooth and even is the surface; shape rather oblong, good size; pulp is deliciously sweet, free from rag and is seedless.

Navelencia. This new sort is commanding some attention from growers. Said to be a cross between the Thomson's Improved Navel and the Valencia Late, it possesses all the good qualities of its parents, and ripens fully 60 days later than the Washington Navel, thus extending the season for marketing Navels until the early summer months. In character of growth and in the fine texture of the fruit it is said to resemble other navels; it is seedless. Worthy of trial.

GENERAL COLLECTION.

Joppa. Fruit large and of red orange color, nearly seedless; thin rind; pulp very fine, sweet and juicy; tree thornless, upright grower. Its remarkable characteristic is that it can be left on the tree as late as July and still retain all the features of a first-class shipper.

Kumquat. A small species much cultivated in China and Japan. The fruit is of about the size of a large gooseberry; rind sweet, juice acid; very delicious and refreshing. Preserved in sugar by the Chinese and largely used as a sweet meat. Tree of dwarf habit and very desirable for pot culture.

Mediterranean Sweet. Fruit medium to large; pulp solid and few seeds; ripens late. Tree is thornless and very productive; very widely distributed and popular.

Ruby Blood. Fruit medium, nearly round, skin very smooth and thin; pulp rich, juicy and melting. When the fruit is ripe, it is streaked and mottled throughout with blood red so intensely that at times it penetrates through the skin; much superior to the Maltese Blood. Tree a strong vigorous grower and thornless; a regular and heavy bearer.

Satsuma. (Unshiu, Oonshiu). Introduced from Japan. Tree of dwarfish habit, quite thornless and bears when very young. The first orange to ripen its fruit, maturing in October. Very hardy and this in connection with its earliness makes it an invaluable sort. Skin thin, deep, yellow; flesh very tender, juicy, sweet, delicious, entirely seedless.

St. Michael. Small, round, firm, thin skin, pulp juicy and very sweet; tree dwarfish habit; a good bearer; very desirable variety.

Tangerine. (Dancy's.) Fruit of medium size, of the Mandarin type. The pulp is very sweet; rind thin and separating readily.

Thomson's Improved Navel. Originated by A. C. Thomson, of Duarte. Fruit of medium size, rind very smooth and thin; pulp juicy, sweet and of firm texture. Its earliness combined with the smoothness and thin-skinned rind have given this variety in some localities a precedence over the Washington Navel.

Valencia Late. Fruit oblong, large, resembles Paper-rind St. Michael in color and firmness; ripens very late, reaching the market when all other varieties are gone. A valuable variety and only second to the Washington Navel in the extent of its dissemination. In localities not affected by late frosts it should be extensively planted. Will hold its fruit in good condition as late as September.

Washington Navel. Of all foreign varieties introduced none have given California the prominence and prestige as a great citrus section that this remarkable variety has. Here it has reached the highest stage of perfection, and it stands pre-eminently in the lead of all other varieties for its large size, lusciousness and sweetness of pulp, so that it well deserves the title of "King of Oranges." Tree is a rapid grower and an early and prolific cropper. Fruit juicy, melting, seedless.

THE LEMON

It is understood that the lemon will not stand as low a temperature as the orange, hence its planting for commercial purposes is restricted to localities where the temperature during the winter months does not go lower than 24° fahrenheit above zero. The tree is a strong upright grower and the branches must be held in check by systematic annual pruning, which causes a liberal development of lateral branches and keeps the tree in a low symmetrical form, thus facilitating the gathering of the crop. Fruit should be picked as soon as it has attained its size and just before turning. For home use, each fruit should be wrapped and placed in a box in a cool place. After a few months the lemon will have become quite yellow in color with thin skin and will be full of juice. Lemons allowed to ripen on the tree are thick skinned, deficient in juice, develop extreme bitterness and are

in every way inferior. For commercial purposes lemons are cured before shipping in specially designed houses.

In localities where the conditions are congenial for its perfect development, flowers, immature and fruit ready to pick will be found on the same tree. A few trees are always a desirable addition to the wants of every home, and by taking the precaution to plant in a protected spot, a good supply of fruit is always available. The tree is a very prolific bearer. Any soil in which the orange thrives is well adapted to the lemon.

Eureka. A California seedling; fruit of large size; sweet rind, a good keeper; quality the very best; a great favorite.

Lisbon. Medium size; sweet rind and very strong acid; very few seeds; fruit very uniform; tree a rapid grower and very productive; said to be the lemon of commerce.

Villa Franca. Fruit oblong; rind thin, without any trace of bitterness; pulp acid, juicy, nearly seedless; tree thornless, spreading habit; will stand a lower temperature than any other variety.

THE POMELO

Known as Grape Fruit, owing to its habit of growth, much resembling in appearance a bunch of grapes. Fruit much sought after for its medicinal qualities, particularly by people suffering from dyspepsia and other stomach troubles. Fruit round, somewhat larger than a Washington Navel, of a pure lemon color, with white flesh, of a delightful aromatic-acid flavor. In the better varieties the pulp is almost wholly free from seeds and "rag." The Pomelo commands a good price in the Eastern markets, the supply being for the present insufficient to meet the demand. Tree hardy as the orange, and a thrifty grower. The fashionable breakfast or luncheon fruit, usually eaten before the more substantial viands are partaken of.

Marsh's Seedless. This Pomelo is deserving of more attention than it has been receiving. It has so many points in its favor over other varieties, that it stands in the same relations to the ordinary Pomelos, that the Washington Navel orange does to the general run of oranges. Size medium, skin very smooth, glossy lemon yellow color, pulp very juicy with very little rag. With the absence of seeds or nearly so, one of the principal objections to serving Pomelos is removed. The fruit will hang on the trees until late in September retaining all of its juices and piquant, aromatic flavor, without any sign of deterioration. This is largely due to its having no seeds which would germinate if kept until late in the season. Of all the citrus family, no tree is so showy as the Pomelo with its immense clusters of yellow globes set off with a background of deep dark green foliage. Can be eaten out of the hand with relish without the addition of sugar when fully mature.

Triumph. Medium size; peel smooth, clear, thin and fine-grained; less "rag" than in most Pomelos and fewer seeds; very heavy, juicy and well flavored. No bitter in the juice, flesh nor membrane surrounding the cells and dividing the segments, and very little in the white inner lining of the peel. Tree bears young; one of the best of the imported varieties.

THE CITRON

The culture of this fruit is still in its infancy. The experimental work thus far has been so highly satisfactory to the growers that large plantations will no doubt be established soon.

The tree is even more tender than the lemon, and should therefore be planted where there is very little danger from damage by frost.

The fruit is prepared for use by immersing in a brine for several months and after washing it is placed in a hot syrup, remaining for three weeks. Later it is cooked with crystalized sugar dissolved in water, being cooked and cooled alternately until it has taken in sufficient sugar, when it is ready for market.

Citron of Commerce. Fruit large, weighing from three to five pounds; shaped like a lemon; skin bright yellow, smooth and very glossy. The tree is of a dwarf habit, with large glossy leaves and very ornamental.

THE LIME

More of a bush than a tree and frequently grown in hedge form. Being subject to injury from frost, it should only be planted in localities where severe frosts are a remote possibility. The trees are tremendous bearers, producing heavily the third year.

Bears's Seedless. Fruit large, with few or no seeds; very juicy with pronounced acidity. Quite hardy, very productive, fruits mature all the year around. Pronounced by experts to be one of the best limes in cultivation.

Mexican. Very largely grown in California and equal to the imported Mexican. Is much used for hedges, for which purpose it is well adapted.

Tahiti. A strong grower; fruit much larger than the former, but coarse and of inferior quality.

THE PERSIMMON

In this country there are but two varieties in cultivation, viz., the American and Japanese, and the latter on account of their attractive appearance, large size, are destined to be universally planted as soon as their commercial importance is more appreciated. The impression that the fruits must be on the verge of decay before they can be eaten, has militated against their sale.

Recent experiments have demonstrated that the astringency which is so marked in the persimmon, is readily removed by placing the persimmons in regular rows in Japanese tubs, from which Saki (Rice-beer) has been recently withdrawn.

After the persimmons are placed in the tub, close carefully to exclude the air. In ten days the persimmons, although perfectly firm, will have lost all their bitterness, and will keep in this condition for several months to be eaten out of the hand just like an apple. In Japan where the growing of persimmons is of great commercial importance, this method of handling is generally practiced. The trees are quite hardy and fruit freely in all sections of the Coast and in the Southern States as far north as Washington.

After the head of the tree is established, follow the same method of pruning as is recommended for peach trees for the first three seasons. Very little cutting is necessary in after years. Careful observations of the best Japanese varieties in the interior valleys has fully established the fact of their never failing to bear heavy crops every season. The tree with its large glossy leaves during the summer months, and its immense, highly colored fruit, clinging to the twigs after the leaves have fallen, makes it a striking object in the orchard or in large gardens. The varieties enumerated below have all been tested and found meritorious both as to yield and quality of fruit.

American. Fruit medium to small, cannot be eaten except when frosted, well known in the southern and eastern states.

Dai-Dai-Maru. Fruit very large, round, oblate, somewhat flattened, color light yellow, deepened slightly at the apex; flesh delicious, firm, juicy, very good; seeds generally absent.

Hachiya. Fruit very large, oblong, conical pointed toward the apex; skin dark, brightened with occasional dark spots or blotches, near the apex; flesh yellow, soft and jelly-like when ripe, very few seeds, a valuable variety, considered to be one of the best. Dried quite extensively in its native home, Japan. Ripe latter part of September. One of the earliest.

Hyakume. The name means "Hundred Momme" a weight equal to four-fifths of a pound and referring to its size; fruit very large, slightly oblate; skin orange yellow; flesh rusty brown, with many purple or dark spots, and but few seeds; ripens early, juicy and not astringent even when hard.

Italian. Fine tree of medium growth; small but very delicious fruit.

Tane-Nashi. Exceedingly large, broadly oblong, pointed; skin light yellow, changing to bright red at full maturity; flesh yellow, seedless; quality very fine; must be fully ripened before eating; tree a vigorous grower and prolific bearer. A valuable market variety.

Tsuro-no-ko. Fruit medium, oblong, slender, pointed; skin bright orange red; flesh orange yellow, rusty, thickly spotted with purplish-black dots; seeds long and pointed; ripens very early and like all the rusty flesh persimmons is much sweeter and juicier than the seedless yellow fleshed varieties.



Tane-Nashi Persimmon.

Yemon. Fruit is large, oblate, tomato shaped, more or less square in outline, folded at apex; skin light yellow, changing to dull red; flesh deep yellow, seedless or nearly so; quality firm, one of the best; ripens in October, but it improves by keeping until very soft; when fully ripened, one of the most delicious persimmons extant.

THE POMEGRANATE

Well known and highly appreciated for its showy habit, rich-colored red flowers, peculiar fruit and medicinal astringency. According to Muspratt, the bark contains 32 per cent tannin, and is used for dyeing Morocco leather yellow. On this Coast it has not commanded the attention from planters that its beauty of bloom and foliage and its edible and peculiarly formed fruits entitle it to. This, however, is in measure due to the fact that the varieties which have been somewhat extensively propagated hereabouts are of little value, and not to be compared with the tested sorts that are now offered. The tree needs an abundance

of water and does best on a rich, moist soil; it thrives well on lands strongly impregnated with alkali. It should be grown as a bush rather than as a tree, and bears indifferently if pruned heavily. The fruit of young plants is apt to be inferior, but size, shape and quality are improved as the plant becomes mature and in full bearing. There is a growing demand for choice pomegranates in the leading eastern markets, where it usually commands fancy prices. We are now offering the following tested varieties, which have fruited satisfactorily in California:

Papershell. Fruit very large, as large as the largest apple; eye very small; skin thin, pale yellow with crimson cheek; meat of the most magnificent crimson color, highly aromatic and very sweet. This pomegranate is simply magnificent and people who have never before liked

the pomegranate have praised this fruit as unequalled. The Papershell is a fine grower, good bearer and ships well.

Sweet Fruited. Fruit large, with sweet juicy pulp; ripens in September.

Wonderful. This magnificent variety of recent introduction is the largest and most attractive of all pomegranates. Fruit is often five inches in diameter. The bright maroon lustre of the fruits make them very much sought after. Add to this a pulp of the very richest garnet color, an abundance of juice as dark as port wine and of exquisite flavor, and you have a fruit which must win its way into general favor. It ripens early, does not burst and is very valuable for shipment to the Eastern markets. October. For illustration in color of this fruit see title page of cover.

MISCELLANEOUS FRUITS

BANANA. *Musa*

One of the most ornamental of the fruiting plants. A native of the tropics but finding situations in California sufficiently warm throughout the entire year so that occasionally a bunch of fruit matures. Banana culture as a commercial proposition is not to be considered on the Pacific Coast. From the standpoint of a novelty however, it has its place. The striking leaves often two feet wide and eight feet long, make it a fine plant for decorative purposes.

Cavendishii. Quite tender, rather dwarf in habit and therefore easily protected. Well adapted for greenhouse culture. Fruit yellow, small, in immense bunches.

Orientum or Hart's Choice. One of the hardiest, leaves usually frosting off, but the stalk stands; fruit clear yellow, skin soft and thin; flesh firm, melting buttery, with unsurpassed fruity flavor.

Sapientum or Orinoco. One of the hardiest and commonest sorts in Florida. A very rapid and robust grower, with large dark green leaves. Fruit large, bunches medium. One of the best sorts for cooking, baking or served with sugar and cream.

THE CAROB

Ceretonia Siliqua. "Carob Tree." St. John's Bread Tree. Native of the Mediterranean regions. A most beautiful evergreen tree. The saccharine seed pods are of value as food for horses, cattle and hogs, containing, as they do, about 66 per cent of sugar. The meat of the sheep and hog is much improved in flavor by this food, while its fattening properties are twice those of oilcake. The fruit also yields a medicinal syrup. A fine tree for dry situations, and does exceptionally well in the interior valleys of this state.

CHERIMOYER OR CUSTARD APPLE. *Anona Cherimolia*

Introduced about forty years ago, finding conditions adapted to its successful culture in many localities in the state, not subject to too severe frosts. The tree grows fully as large as an orange, and produces fruits in great abundance from three to five inches in diameter, heart shaped and grayish brown in color when fully ripe. The flesh in which thirty or even more brown seeds are to be found, has the consistency of ice cream, with a custard flavoring blended with pineapple and banana.

ELAEAGNUS

Elaeagnus longipes. A beautiful new shrub from Japan. The bright yellow flowers appear in the early summer succeeded in July with an abundance of oval-shaped fruits, about half an inch long, of deep orange-red color, very showy and attractive; the flavor is pungent and agreeable, makes an excellent sauce. Worthy of extensive cultivation not only for the fruit, but also for ornamental purposes.

THE GUAVA

Psidium Pyriferum. "Pear or Lemon Guava."

Grows to be quite a large shrub, fruit pear shaped, yellowish, valued for jellies and preserves. As it is rather tender it is adapted only to the most favored locations.

Psidium Cattleianum. "Strawberry Guava".

Shrub or small tree of bushy growth. Immense bearers, producing fruits larger than an English walnut, nearly spherical; skin of a fine deep claret color, resembling that of the fig, but thinner; pulp fleshy,

soft, juicy, purplish red next to the skin but white at the center, with a strawberry like flavor and fragrance, hence the name. Much harder than the preceding. Very popular for jellies, jams and preserves, also very good when eaten out of the hand.

Psidium Lucidum. "Yellow Strawberry Guava." Has a large yellow fruit and said to have a better taste than the purple fruited form.

THE JUJUBE

Zizyphus Jujuba. Sometimes called the "Chinese Date Plum." Extensively grown in China. A beautiful ornamental tree attaining a height of twenty-five to forty feet with a bright glossy green locust like leaves producing fruit in great profusion the fourth year after planting. The fruit is of about the size of a small plum, having a light brown exterior, which grows deeper and wrinkled when fully matured. The pulp is of a gingerbread color, inclosing a hard elongated stone. Ripens in September and the refreshing acid flavor makes them very attractive when eaten dried from the tree. If desired they may be gathered when mature, stored in a dry place, when the pulp becomes quite soft, being very much sweeter than when eaten fresh. Commercially the fruits are valuable as a paste for confectioners.

THE LOQUAT

The "*Eriobotrya Japonica*" of the botanists, erroneously called Japanese Medlar, Japan plum; Biwa of the Japanese. A beautiful evergreen shrub or tree attaining a height of fifteen to thirty feet, bearing pear shaped fruits of a pleasant acidulous flavor and of lemon yellow color. Blossoms in November and matures its fruits in April and May, growing well in most any soil. The leaves are large, dark green, rough and markedly crimped, and the young wood is quite woolly. The tree is a compact grower and forms a dense and well rounded head. It is very prolific. The fruit of the improved types enumerated is from two to three inches long and one and a half inches in diameter. The fruits are borne in immense clusters from twenty to thirty in a bunch. The flavor is distinct having some resemblance to the cherry. The fruit ships well, and although not well known, its beautiful appearance, fine texture, good color, melting flesh, fine aroma and refreshing sub-acid flavor will cause it to be in great demand wherever introduced. It makes an exquisite jelly. When grown in pots it makes a good decorative house plant.

Advance.. (New). Fruit very large, from 2½ to 3 inches long. Markedly pyriform in shape. Skin deep lemon yellow, very firm, flesh juicy, very sweet, with distinct attractive flavor when fully matured. The first to ripen its fruits.

Premier.. (New). Fruit large, oval in form and flattened both ends, two inches long and the same breadth when cut transversely in the broadest part. Color lemon yellow. Flesh melting, juicy and sweet. Very little tartness; seeds quite small.

Seedling. Fruit medium, borne in immense clusters. Varying in color from yellow to deep orange; flesh melting, juicy and sweet.

Victor. (New). One of the largest of Mr. C. P. Taft's introductions and one of the earliest. Fruit three inches long and shaped somewhat like an egg, but more pointed at the stem end. Skin of a golden yellow color. Flesh greenish-yellow, slightly vinous but quite sweet. Clusters large and very striking. Probably the largest of the improved types. Very firm when mature and one of the best for preserves and jellies.

THE MEDLAR

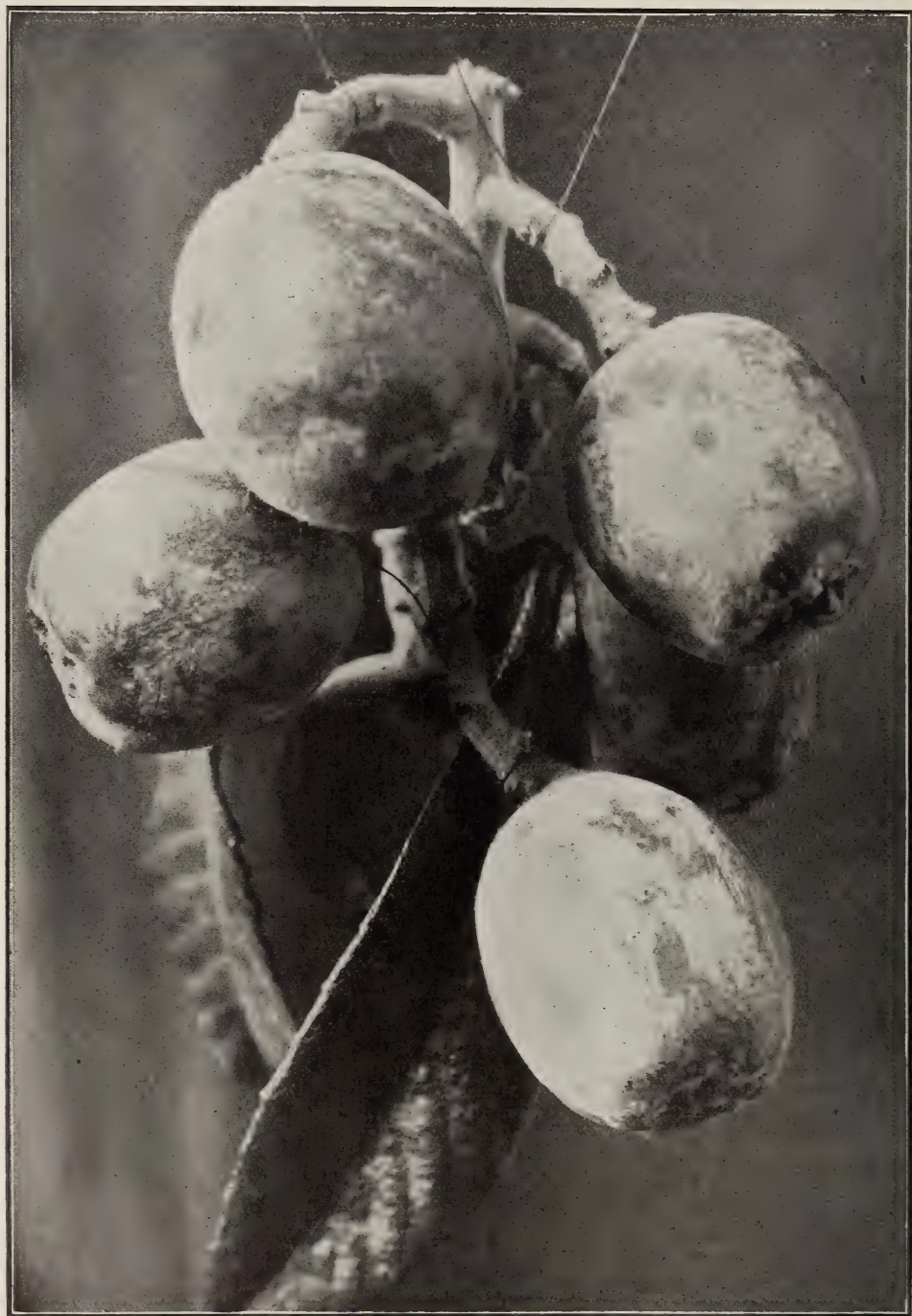
Mespilus Germanica. A very large tree, with soft luxuriant foliage growing ten to fifteen feet high. The fruit is of about the size of a small apple, very much flattened with a very wide open eye, flanked with the calyx leaves. It remains quite hard until mellowed by frosts, when incipient decay sets in and it becomes brown and soft. It has an agreeable acid flavor.

JAPANESE-CHINESE FRUITS

Hovenia Duclis. A small round headed tree, with handsome somewhat shining foliage; small greenish flowers appear in July succeeded by small, sweet aromatic fruits of reddish flesh maturing in the fall.

Lychee. (Nephilium Litchi). This is the fine fruit so common among the Chinese about the size of a walnut. The outer covering consists of a thin brittle shell, under which is a layer of soft, aromatic and delicious pulp, and in the center a rather large, smooth, hard shelled seed from which the pulp readily separates. One of the most delicately flavored fruits of the tropics. In the dried state it is exported to all parts of the world and is one of the most highly prized sweet-meats of the Chinese. Rather tender and therefore adapted to only the most favored locations.

As we have one of the best equipped sales depots in the West, patrons of the Fancher Creek Nurseries can depend on receiving their trees and plants promptly.



Improved Type of Loquat. For description see page 55.

THE GRAPE

The geographical distribution of the grape is indeed a wide one, and includes most all countries coming within the tropical and temperate zones. It finds, however, its most vigorous development in the warmer sections of the temperate areas, enjoying its greatest luxuriance at a point where the two zones meet, if such an expression be allowable. Hence we find grape culture the leading horticultural pursuit in the warmer regions of France, Germany, Italy and the Mediterranean regions, in the foothill lands of Australia, on the higher plateaus of the Philippines, along the base of the mountains of the South American states, particularly in the foothill sections of the mountain valleys.

In California, and especially in the San Joaquin Valley, it finds ideal conditions, and in Fresno County, the raisin, table and the wine sorts constitute our leading industry, easily leading all others in money value and commercial importance. Owing to these facts, the Fancher Creek Nurseries have long made grape growing a special study as well as a leading division of its large propagating business. This experience not only covers a wide range, but embraces years of experimental culture, which has given us a basis for the selection of varieties calculated to meet every condition of soil and at the same time prove profitable to the growers. At present our stock comprises all the best sorts in raisin, wine and table varieties, embracing all told upwards of a million plants or rootings. Observations made in Europe and a close study of conditions prevailing in the South American States have given us an insight into requirements which gives assurance that what we have to offer will prove desirable. Our vines are free from disease and insect pests, and are strong in constitutional qualities, hence vigorous growers.

LAYING OUT A VINEYARD

First establish your base lines. It is best to have this done with a transit, particularly if there are no established regular subdivision lines to work from. If the base lines are not at right angles, the rows will not be straight, and nothing is more unsightly. Add to this the difficulty of plowing, cultivating and the advantages of straight rows will be readily understood. For planting use a steel wire of about No. 12 gauge divided up into links of two or four feet, or for that matter they may be longer or shorter, depending on the distance the vines are to be set apart. The advantage of a planting chain made in this manner is that it will not stretch like a straight piece of



A Pruned and Unpruned Grape Vine.

Figure to the left shows how to prepare Vine for Planting.

wire, and furthermore it may be used to plant other orchards or vineyards where it may be necessary to make a change in the distance apart the vines or trees are to be set. This change is easily made, it being only necessary to tie a piece of colored cloth in the ring to which the links are fastened. The length of this wire varies according to the notion of the planter, but 250 feet is about the limit which can be handled to advantage. It is best to have the wire the width of the check, the last link coming flush with the stake indicating the roadway. These roads should be at intervals of 24 rows for a wine and table vineyard and 30 rows for a raisin vineyard. Start at one corner of the field with the chain which should have 3 inch rings at each end for inserting the iron stakes, which should be made of $\frac{1}{2} \times 2$ inch iron, $2\frac{1}{2}$ feet long and



Proper Pruning of the Vine.

1 First Year. 2 Second Year. 3 Third Year.

drawn down to a point at one end. The stakes which are to be used as markers may be split out of redwood or any other material for that matter and at least 12 inches of one end dipped into a bucket of whitewash so that the line of the base rows may be readily seen.

Having set the stakes along the outside line at the distance apart the vines are to be planted, start at the same end of the field again and set another line of stakes parallel with the first line and the length of the chain distant from the outside line. Proceed in this manner until the entire field is laid out in checks. With this preliminary work done and having exercised care in the measurements to have the base lines parallel and the stakes in each block opposite each other, no difficulty will be experienced when planting commences to have the vines line up.

PREPARING FOR PLANTING.

First remove all the lateral roots with a sharp knife or shear, starting between the base of the cutting and the top of the vine, making a smooth cut close to the stock. Next shorten in all the roots, radiating from the base of the cutting to three inches. Then prune the top of the vine leaving only one spur with from two to three buds. The vines should be pruned a day or so in advance of the planting and the work should be entrusted to careful men. As soon as pruned, the vines should be heeled in and the soil either wet or tamped down to prevent the roots from drying out. The heeling in ground should be centrally located so that it will not be necessary to carry the vines too long a distance to the planters.

HOW TO PLANT.

Each man should be provided with a bucket or five gallon coal oil can. A small quantity of water in the bottom will keep the roots moist. Each bucket should be filled with vines and replenished from time to time with vines as they are needed by the planters.

The planting wire should be stretched across the first check to two stakes which should be directly opposite to each other. Each planter should have charge of two marks on the wire. As an illustration figure on a basis of planting the vines eight feet apart each way and leaving out every thirty first vine for an avenue. It would be necessary to have a chain 250 feet long over all, including a one foot link at each end for the ring and to permit drawing the chain taut. To such a chain it would be necessary to have seventeen men, two to stretch the chain across the field between the two stakes set opposite each other in the check and fifteen to do the planting. The marks eight feet apart in the chain indicate where the vines are to be set. In planting the vine should be set so that the collar will be level with the top of the ground when it is settled, except with grafted vines, which will be referred to later. The soil in the bottom of the hole should

be loosened up, and that used to fill in should be top soil, the first few shovels of which should be well tramped in, the top being left loose. Having set this line of vines, the chain is carried to the next two stakes, and so on until the check is planted. Within two weeks after planting, the earth should be settled around the vines either by hauling water to them or by irrigating, running the water in furrows along each row. This is important for even with a good field boss over a crew of men, some of them will be careless, fail to tramp the soil around the roots and unless a timely and heavy rain should cause the soil to settle, the vines will dry out and die.

CARE AND PRUNING THE VINE.

Specific rules for cultivation and irrigation cannot be laid down, for this work is dependent on soil conditions, water, rainfall, etc. It goes without saying that thorough cultivation and careful attention to keep the vines in an active state of growth during the growing season, will be amply repaid when the vineyard reaches its bearing age. Far better for the vines if they do not produce any grapes until they reach the third year.

The training of the vine should be given careful attention the first year of its growth. In order that the plant may not form a head close to the top of the ground a short stake allowing it to be a foot above the ground should be driven beside each vine. These stakes should be about $1\frac{1}{2}$ inches square and 2 feet long. In July before the growth of the canes has become lignified they should be tied with three or four ply baling rope to the stake, and about one-third of the top growth cut off. This shortening in of the canes causes them to become stocky and as a result of the tying up there are a number of straight shoots, the strongest of which may be selected the following winter, the others being removed, to form the head of the vines. This cane is cut back to twelve inches, all lateral branches being cut away. This single cane is carefully tied up to the stake. The head should be formed from eight to ten inches from the top of the ground. The second year from two to three spurs with three eyes are left to form the head of the vine. The third season the vines will have become stocky enough to become self supporting and the short stakes may be removed if this is found to be the case. In the event that the vines are to be short pruned, from one to two more spurs should be allowed to remain with three eyes on the current seasons growth. In later years a few more spurs are left each year on the original spurs forming the head, the number being largely a matter of judgment on the part of the pruner.

If the vines are of a class requiring long stakes and to be grown with canes, it is far better to defer driving these long stakes until the third year, so that the head of the vine will be fully established. Coast Red-

wood stakes are the most satisfactory but even these should be dipped in hot asphalt to prevent rotting. The tar should extend far enough up the stake from the pointed end, so that when driven the tarred portion will be at least six inches above the top of the ground.

In staked vines from two to three canes are taken up the third year, and from three to four spurs with three eyes properly distributed around the head of the vine are allowed to remain, to furnish new canes in succeeding years. These remarks apply particularly to the Sultana and Thompson Seedless varieties. In such varieties as Emperor, Flame Tokay and Cornichon, it is customary to take up from two to three canes, allowing these to remain for a number of years, shortening in the spurs to three eyes each season. The number of spurs allowed to remain must be largely a matter of judgment on the part of the pruner, depending very much on the growth of the vine. Always maintain some spurs at the head of the vine, so in the event it is found necessary to cut out the old canes, new ones will be available to replace them.

RESISTANT VINES

The ravages of the Phylloxera in the grape regions of France and the practical extermination of the French vineyards through this dreaded pest, are too well known to require repetition here. Today France is producing more wine than she did in her palmiest days, prior to the time this pest was introduced. This wonderful change has been brought about by the grafting of the table, raisin and wine varieties, all of which are natives of Europe belonging to the *Vitis Vinifera* class, and none of which, no matter how strong they are, but will finally perish when attacked by the phylloxera.

The resistant grapes were originally wild American Grapes, natives of the Mississippi Valley. These were taken in hand by the French viticulturists, improved by hybridization and selection until today a large number of sorts adapted to a variety of soils and locations have come into general use.

The destruction of vinifera vines is due to the roots rotting whenever the insect makes a puncture, causing the vine to perish in time. The roots of the resistants, although subject to these attacks, the punctures do not extend deeper than the bark of the rootlets, and as this is sloughed off each year, the roots are left as healthy as before. The grapes of the resistants are worthless, the vine simply serves as a stock for the more valuable foreign varieties of wine, table and raisin grapes, all of which succumb to the attacks of the Phylloxera on their own roots.

This terrible pest is now to be found in the vineyard regions over the entire world, and has already commenced to destroy the vineyards in certain sections of California. Realizing that in time our vineyards too would perish, we have taken steps to introduce the leading sorts of resistant grape-

vines from France, and already have hundreds of thousands growing in nursery form.

It is our purpose to make the growing of grafted resistant vines one of the special features of our nursery business, for we fully realize that the vineyard industry of California and other countries also can only expand and maintain its prestige by extending the acreage in the future, using resistant vines to give it permanency. We are making practical experiments in our own vineyards, with a number of varieties of resistant vines, and have imported direct all the very best varieties from France, so we feel that we will be in a position to give advice to our customers on this subject based on practical experience.

HOW GRAFTED RESISTANT STOCKS ARE GROWN

It is only natural that vines grown on phylloxera resistant roots should be more expensive than vines grown on their own roots, when the painstaking work necessary to grow resistants is taken into consideration. Practically all the grafted vines are bench grafted.

The resistant cuttings, none of which should be less than a quarter of an inch in diameter, are cut into fourteen-inch lengths, the cut at the base of the cutting being made close to the joint. All the buds must be cut out with either a sharp knife or shear, otherwise suckers will start out and be a constant source of annoyance to the vineyardist. The scions are cut into three-inch lengths, and are grafted on to the cuttings with a whip graft. The union is either wrapped with raffia or Dexter twine which has been previously soaked in melted grafting wax. The cuttings are then placed in a callousing bed where they remain until a well developed callous makes its appearance at the joint of the scion with the stock. The grafted cuttings are then carefully taken out and set about three inches apart in nursery rows and are completely covered over. The cuttings are not disturbed until July, when the soil is drawn away, and the union of the scion with the cutting is exposed and all roots starting from the scion are carefully cut off. In digging the grafted vines there is always a certain percentage with imperfect unions and these are thrown out. This briefly enumerates the work required in growing this class of stock.

With vines on their own roots, the cuttings after being calloused are planted, or if the soil in the nursery is a warm, sandy loam, the cuttings may be planted as soon as made. Except for irrigating and cultivating they require no further attention during the season.

PLANTING GRAFTED VINES

The cultural directions already given for planting vines on their own roots may be applied to the resistants in so far as preparing the vines for planting. In planting

the rootings, the vines should be set so the union of the stock is at least an inch above ground. As soon as the vine is planted, cover it with soil leaving only the top bud exposed. When the vines have a good strong growth, clear the soil away from them and cut off any roots which may have started from the scion. This is one of the important points in bringing a resistant vineyard into bearing, for if these roots are not cut off the resistant roots dwindle away and the vine reverts back to its own root. Suckers starting from the resistant cutting should also be removed. The same recommendations for training and pruning vines on their own roots may be followed with grafted vines.



Dattier de Beyrouth Grape.
Berry in the lower left hand corner natural size.

VINIFERA VARIETIES

RECENT INTRODUCTIONS

Dattier de Beyrouth. This magnificent grape is the most popular raisin and table grape of Asia Minor; the bunches run medium to large, cylindrical, the berries are unusually large, rather oblong and flattened at the ends; the color is greenish deepening to a rich golden amber when mature, very firm; in flavor is far superior to the Malaga, being rich, vinous and juicy. The vine is a strong grower and an immense bearer. This grape gives promise of being one of the most valuable acquisitions for table and shipping purposes of recent introduction.

Sultana Rosea. Introduced by the United States Department of Agriculture. Bunches medium to large, slightly shouldered, berries medium, oval, greenish-white, shaded to violet rose, and where exposed to the sun deep coppery red in color. Resembles the Thompson Seedless very closely, except that the berries are somewhat smaller and differ in color.

GENERAL COLLECTION

FOR TABLE, RAISINS AND SHIPPING

Alicante. Bunches medium shouldered, closely set; berries ovate, large; skin black, with thick, blue bloom; flesh very tender, delicious and very sweet.

Almeria. A strong grower; bunches large, loose shouldered; berry large, oval, yellowish-green. This is the grape which is so largely shipped from Spain, packed in cork dust, selling readily at very remunerative prices.

Black Ferrera. Bunches large, shouldered, loosely set; berries large, oval, skin thin; black with violet bloom; flesh sweet, crackles; a most delicious table grape and valuable for shipping.

Black Barbarossa. Fruit reddish black, with fine bloom, large, round; flesh tender juicy; bunches very large, regularly tapering, well set. Late.

Black Cornichon. Bunches long and loose; berries oval, tapering at both ends; skin thick and dark, covered with bloom; flesh firm, with pleasant flavor; a desirable variety for shipping and marketing; ripens late.

Black Hamburg. Bunches very large, heavily shouldered, berries large, round; skin thick, coal black when fully ripe; flesh sweet and juicy; one of the best table grapes. An immense bearer.

Black Morocco. Bunches medium to large, closely set; berries very large, oval, skin thick, dark red, becoming black when fully ripe; flesh firm, juicy, sweet and crackling; ripens late, keeps well, an excellent grape for shipment.

Bowood Muscat. Very similar to the Muscat commonly grown for raisin purposes, differing only in the shape of the berries, which are round and somewhat thicker skinned.

Chasselas Ciotat. Bunches small, compact; berries clear, greenish-white, small; flesh juicy and pleasant; leaves very much lacinated, hence the name, "Parsley-leaved Grape;" very early, ripening first week in August; should be in every collection.

Chasselas Croquant. (Diamant Traube.) Bunches short and compact; berries very large, greenish-white, skin thin; flesh very sweet and delicious; a very handsome grape.

Chasselas Golden. Bunches medium, compact; berries of an amber color, sweet and watery; ripens latter part of July.

Chasselas de Fontainbleau. (White Sweetwater.) Bunches large and compact; berries medium size, round; skin thin, transparent, greenish-yellow; pulp tender, juicy, sweet, and highly flavored; one of the best early grapes.

Chasselas Rose. Bunches long cylindrical; berries small, round, clear, rosy red; flesh firm, juicy, sweet and pleasant; a very pretty grape; ripens very early.

Deacon's Superb. Bunches large, oval and very compact; berries oval, yellowish-green; skin thin; flesh juicy, melting, rich and sweet; vine a rapid grower and very productive. This is a magnificent table grape, and is worthy of extensive cultivation.

Emperor. Vine a strong grower and heavy bearer; bunches very large, long and loose-shouldered; berry large, oblong, deep rose colored, covered with light bloom, firm, skin thick. One of the most profitable late varieties to plant for market; its firmness, good keeping qualities and rich color cause it to be in great demand in the eastern markets every year. Withstands rain better than any other variety; October.

Flame Tokay. Bunches very large and moderately compact; berries large; skin thick, pale red covered with bloom; flesh firm, sweet; an old standard variety, always commands a good price in the eastern markets, and as a table grape more extensively planted than any other variety. September 15.

Golden Hamburg. Bunches large, loose, broadly shouldered; berry large, oval, somewhat flat at the end; skin greenish-yellow; flesh soft, melting, watery; September.

Golden Queen. Fruit greenish-yellow, becoming golden when fully ripened; large long-ovate; flesh juicy, with faint trace of Muscat. A magnificent table grape. Early September.

Gros Colman. Bunches large, cylindrical, loose; berries as large as Damson plums, spherical, slightly flattened; skin thin, very dark; covered with bloom; flesh firm, with a pleasant vinous flavor; ripens in October. Without doubt a valuable shipping grape; its large size, good keeping qualities and delicious flavor all combine to bring it into prominence as a desirable market and table variety.

Gros Maroc. Fruit nearly jet black, with a fine bloom, large, ovoid in shape; flesh firm, juicy with a vinous rich flavor. Somewhat similar to the preceding, but ripens earlier, is firmer and more delicate in flavor. Foliage large and leathery, making it a very valuable variety for arbor culture.



Thompson's Seedless Grape, showing bearing qualities and habit of growth.

Jura Muscat. Bunches medium and very compact; berries dark, coppery red; flesh sweet, with pronounced Muscat flavor; a very showy and desirable table grape. Early September.

Lady Finger. (Romadi Pizutella). Bunches very large and long; berries long, shaped like a lady's small finger; a grape famous in Asia Minor; rare, highly esteemed for table use. Vine a rapid, strong grower with large luxuriant foliage. Late September.

Malaga. Vine a strong grower, and immensely productive, thriving in almost any soil, bunches very large, often weighing ten pounds; compact, shouldered; berry very large, oval, yellowish-green; skin thick, fleshy. One of the best shipping grapes, commanding a good price in the eastern markets every season; makes a second quality raisin. August.

Malbeck. A very handsome grape, berries inclining to oval; light red and exceedingly firm; bunches large, cylindrical, berries loose and well formed. Flavor exceptionally good; very firm; a valuable variety for table and shipping. September 15th.

Mrs. Pince. Bunches large and compact; fruit large, ovate, purplish-black; flesh exceedingly firm, rich and sweet, with decided Muscat flavor. September.

Muscat of Alexandria. (Gordo Blanco.) Bunches long and loose shouldered; berry oval, sometimes round; yellowish-green; skin thick; flesh with a decided Muscat flavor. This is the variety so extensively planted for raisins. The distinctive feature between the Alexandria and Gordo Blanco is supposed to be in the shape of the berries, the former being oblong and the latter round: In this locality the two varieties have been found to be so nearly identical, round and oblong berries being found on the same vine, that they are classed as Muscats and no distinction is made by even the most experienced raisin vineyardists. Late August.

Muscat Hamburg. Bunches large; fruit large, purplish-black, long ovate; flesh firm, rich, juicy, with decided Muscat flavor. September.

Purple Damascus. Bunches large, loose; fruit is very large; deep purple when fully ripe; skin thick; flesh meaty and juicy; a splendid grape for the interior valleys; a good shipper.

Rose of Peru. Vine a strong grower; bunches very large, shouldered, loose; fruit round, large with firm and crackling flesh; a very handsome grape of fair quality, and highly esteemed as a market variety. September.

Sabal Kanski. Said to be the Imperial table grape of Russia. A very handsome, very large coppery-red, oval grape, tapering at the ends; bunches immense, often weighing eight pounds; flesh sweet and crack-

ling; a much superior grape to the Tokay in flavor, and on account of its firmness undoubtedly a good shipping grape, but ripens rather unevenly in some localities. September.

Sultana. Bunches long and very compact; berries small, amber colored, seedless; makes fine seedless raisins; vine an immense bearer; grows on sandy soils; producing large crops. Late August.

Thompson's Seedless. Identical with the Seedless Sultanas of Asia Minor. Vine an enormous bearer and very rapid grower; bunches very large; berries greenish-yellow, firm, oval, seedless; skin thin; much larger than the Sultana. This variety is attracting a great deal of attention in this valley, and it is preferred to the Sultana, having many qualities superior to it. The raisins are of a very superior quality, and are in good demand; a very early shipping grape, ripening in August. As a sherry grape much can be said in its favor.

White Corinth. Bunches small and compact; berries small and seedless; skin amber.

White Cornichon. An exact counterpart of the Black Cornichon, except that the grapes are white.

White Tokay. Fruit greenish white, large ovate; flesh firm with a sweet, pleasant flavor when mature; bunches large and broadly shouldered.

Zante Currant. (Black Corinth.) Bunches medium; berries small, seedless; skin thin, black, blue bloom; flesh sweet, juicy and highly flavored; distinguished from White Corinth by the color of the berries, which are black and larger. This is the variety producing the currant of commerce, and imported from Greece under the name "Zante Currant."

VINIFERA VARIETIES—FOR WINE

Alicante Bouschet. A strong grower with a bunch of medium size; berries medium, very high in sugar, juice red. Gives a very superior wine, bright in color, and pleasant. A very valuable wine grape.

Aramon Noir. Vine, strong, vigorous grower and immense bearer; bunch large, nearly cylindrical; berries large, bluish black; thin skinned; one of the most extensively planted grapes in southern France for wine purposes; a fine table grape but not adapted to long distance shipments.

Beclan. Particularly valuable for blending with claret types which lack color. Bunches of medium size, long, cylindrical, compact; berries medium, black, round, crisp, juicy, with a fresh agreeable taste.

Black Malvoise. Vine a strong grower; berries large, oblong, reddish-black, with faint bloom; flesh juicy, flavor neutral; an immense bearer; an excellent table, as well as a wine grape.

Burger. A German variety; produces a light, white wine; an immense bearer.

Cinsaut. A good table grape for California market; berries large black, sweet and palatable; makes excellent wine.

Carignan. Berries oblong, black, an excellent wine grape.

Fehér Zagos. Vine a vigorous grower and immense bearer; very hardy and exceedingly productive in sandy and heavy soils; bunches large and compact; berries, oval, yellowish-green. A valuable sherry grape.

Folle Blanche. Berries medium-sized, white; used extensively for the manufacture of brandy.

Grenache. A strong growing variety; berries bluish-black; makes a high-grade wine.

Johannisberg Riesling. Very productive, yields an excellent white wine; bunches medium, compact; berries small, round, skin thin; flesh tender, sweet, juicy and highly flavored. This is the grape from which the celebrated Hoch Wines are made.

Mataro. One of the finest grapes for claret; good bearer and heavy grower. All the great French authorities agree in placing the Mataro as the finest red wine grape of the Southern regions.

Mission. This is the old and well-known grape, first grown in California; bunches shouldered; berries medium, round, purple black; sweet and delicious. An old standby for making a good quality of claret.

Mondeuse. Very vigorous grower and exceedingly productive; bunch large, compact; berry medium black with blue bloom; makes a rather coarse wine but very valuable for blending.

Palomino Blanco. Vine a very vigorous grower and prolific bearer, bunch large shouldered, berry large, round, greenish-white; a magnificent grape for either sherry or white wine. Does remarkably well in the interior valleys.

Pedro Ximenes. One of the noblest of all white grapes; used for imparting flavor and aroma to poorer grades of white wine.

Petit Bouschet. Strong grower and an immense bearer; a standard among the claret types.

Petite Syrah. (Serine.) Medium grower, bunch long, wine of good quality, high color and with a good bouquet.

Sauvignon Vert. Vine very vigorous, immense bearer; bunch of average size, winged, compact; berries medium, spherical, greenish-white, thin skinned; produces an excellent wine of the Sauterne type.

Semillon. Strong grower; bunch large winged; berries uneven in size, transparent, golden color when ripe; thin

skinned, with an agreeable, special flavor; is one of the finest white wine grapes of the Sauterne type and very extensively grown in France in the Sauterne district.

Zinfandel. Bunches large and compact; berries round, dark purple; the most extensively planted grape in California for making claret.

AMERICAN TABLE GRAPES. (VITIS AESTIVALIS.)

This family of grapes is the one so extensively grown in the middle and eastern states. Some varieties are used there for wine purposes. These grapes all have a slip skin and a pronounced foxy, flavor, which places them on an inferior footing commercially with the Vinifera type.

They may be planted in localities where extreme cold weather in the winter months would make it unsafe to plant Vinifera. They are particularly well adapted for training on arbors as they are strong growers and good climbers; the foliage is very showy. They are somewhat resistant to the attacks of Phylloxera.

Agawam. One of the best red varieties; bunches good size; berry tender and juicy.

Brighton. Bunches large and loosely set; berries large, round, coppery-red; flesh rich and sweet; quality and flavor unexcelled.

Catawba. Bunches large and loose; berries round, of a coppery-red color; vinous and rich.

Concord. Large, black grape, bunches compact; berries round, sweet and pleasant.

Early Ohio. Said to be the earliest black grape known; bunches compact; berry medium, covered with blue bloom; quality good; first-class for market.

Goethe. Bunches medium; berry large; skin thin, yellowish-green, tinged with red; flesh tender, melting, sweet and delicious; ripens late.

Isabella. Our most extensively planted Eastern grape; bunches long, large and loose; berries black, oval, juicy and sweet, with distinct musky flavor; an immense bearer; a valuable market variety.

Jefferson. Bunches large, compact; berry large, bright red with a lilac bloom; flesh meaty, juicy, sweet, aromatic; said to be one of the finest red grapes either for market or home use.

Moore's Diamond. A most desirable new white grape; originated in Brighton, N. Y.; bunches large; berry greenish-white, with yellow tinge, when fully ripe; flesh juicy, and almost without pulp; very few seeds.

Moore's Early. Bunches medium; berry very large, resembling Concord in quality, but more pulp; ten days earlier.

Niagara. Bunches medium; berries large, roundish, uniform; skin thin but tough, pale yellow, with whitish bloom; flesh tender and sweet; vine vigorous and productive; one of the best white grapes.

Pierce. (Isabella Regia). A giant-leaved and very prolific variety, or rather, sport of the Isabella, produced by Mr. J. P. Pierce, of Santa Clara. The berries, like the leaves, are of extraordinary size, and when ripe the fruit is exceedingly sweet and strongly aromatic; berries bluish-black when fully matured; commands a ready sale in the market, the demand exceeding the supply; for size and quality it cannot be surpassed by any of the American varieties of grapes.

Woodruff. Vine a vigorous grower; bunches and berries very large and attractive and of very good quality; ripens early and among the native grapes takes the lead as a red market grape.

PHYLLOXERA RESISTANT VINES.

Their only value lies in the fact that they do not succumb to the attacks of the Phylloxera, and for this reason they are used as stocks for grafting the vinifera varieties of wine, table and raisin grapes. The varieties enumerated below have been selected and imported by us direct from France.

The adaptability of the varieties to various soils is taken from recommendations of men who have had years of experience in France and from our own observations.

None of these varieties have any value as direct producers.

Aestivalis X Colcolica—Riparia X Rupestris, 554-5. Adapts itself to the driest of soils, and can be used for the same soils as 106-8; possesses advantages over that variety, however, in the fact that it will also grow where there are heavy lime formations.

Aramon X Rupestris Ganzin, No. 1. Said without question to be one of the best Franco-Rupestris, and which for the past eighteen years has given excellent results and general satisfaction. Thrives well on a light and heavy, compact soil, and grows luxuriantly on a soil containing a large percentage of lime. Better adapted to moist than to dry soils.

Berlandieri X Riparia, 420A. This variety has a very close affinity to the European varieties of grapes, and adapts itself to moist and dry soils, including those having a large amount of lime. It is said to have a decided influence on the vine when grafted, causing the grapes to mature more evenly than on the Rupestris, or hybrids of Rupestris.

Berlandieri X Riparia, 157-11. Has a large amount of Riparia blood, and thrives in a deep, alluvial soil. The Berlandieri X Riparia hybrids are easily propagated and are recommended for deep, alluvial soils and those heavily charged with moisture in the spring, but which dry out during the summer months.

Berlandieri X Riparia, 34E. Has more of the Berlandieri blood than the preceding, and is adapted as a stock not only in an ordinary soil, but is also recommended for very dry and poor soils.

Chasselas X Berlandieri, 41B. This variety is grown just as easily from cuttings as the Riparia and Rupestris sorts; it possesses a great affinity for the European or Vinifera grapes, which seem to ripen more uniformly on this sort than on any of the other hybrids, and contain from 1 to 1½ per cent. more sugar; they thrive well on chalky and on extremely dry soils.

Lenoir. This variety has been very extensively planted in the State, but is now being replaced with varieties more resistant to the attacks of the Phylloxera. It is well adapted to heavy clay soils. Has been found to be very satisfactory as a resistant in Napa and Sonoma counties on such soils. The grapes are rich in coloring matter, and are used very largely for coloring clarets.

Mourvedre X Rupestris, 1202. A variety which has been experimented with to a limited extent in this State. It gives promise of being a valuable stock. Particularly adapted to alluvial as well as compact, heavy soils underlaid with lime formations. Will not do well where the hardpan is too close to the surface.

Riparia X Cordifolia X Rupestris, 106-8. (Millardet.) This is a very desirable hybrid for very dry soils having no substrata of lime. For such soils it has been found to be superior to all the other resistants.

Riparia, Grand Glabre. This is another very vigorous grower and withstands the drought better than Riparia Glorie de Montpellier. The leaves are smoother and are not inflated and the petiolar sinous is widely open V shaped.

Riparia, Glorie de Montpellier. Also called Portales, and is the best sort of the innumerable and many forms of Riparia that have been used in France for a period of 25 years. Of late years this variety has superseded all other varieties of Riparia. It is not suited to dry, compact soils, but should be planted in moist, alluvial soils. It is vigorous grower, with large, luxuriant and heavily-ribbed foliage. It does well in California, where conditions are favorable for its development, growing finely in very shallow soils, providing they have the necessary amount of fertility.

Riparia X Rupestris, 101-14. (Millardet.) Very vigorous; thrives best in a deep, alluvial soil, not heavily charged with lime. This family possesses all the good qualities of its parents without their drawbacks; that is, they can be planted in soils where the Riparia will become yellow and the Rupestris will grow too vigorously.



The Logan Berry, a California Favorite.

Riparia X Rupestris, 3309. (Coudere.) Will withstand a very large amount of lime, and thrives in the driest locations; does equally well in a compact clay, or in a gravelly soil, where the water is not too close to the surface.

Riparia X Rupestris, 3306. Will thrive in soils having a large percentage of lime, hence is particularly recommended for moist soils. In southern France it is being planted in locations where the Solonis was found insufficiently resistant to Phylloxera.

Rupestris X Berlandieri, 301A. (Millardet.) A vigorous hybrid, having a very close affinity to the vinifera family. The roots are large and strike down deep. The great advantage of this variety over the pure Berlandieri is that it is suitable to dry, rocky, limestone soils.

Rupestris St. George (also called *Rupestris du Lot*, *Monticola*, *Phenomine*.) Stands

in the same relation in the large family of *Rupestris* as the *Riparia Gloire de Montpellier* does among the *Riparia*. Has been more widely distributed and more extensively planted, not only in France, but throughout Europe and in California, than any other resistant. Of all the resistants it is the most vigorous grower; makes a strong head with heavy, closely-jointed canes, and adapts itself to a great variety of soils; does equally as well in a moist, very heavy and compact, clay soil as in the driest hillsides, having the remarkable faculty of sending its roots straight down in search of moisture. Will thrive in soils with a moderate amount of lime, but should never be planted in shallow soils.

Solonis X Riparia 1615. In vigor of growth very closely resembling the following.

Solonis X Riparia 1616. A very strong growing variety, having a great resistance to phylloxera and making a fine union with the graft.

THE SMALL FRUITS

This term usually applies to the berry family—Blackberries, Raspberries, Currants, Gooseberries, Strawberries, etc. Their general requirements are so well understood as to demand no special mention. The whole Pacific Slope, wherever fruit soils and sufficient moisture prevail, is adapted to their successful culture. In California there is almost a continuous growth, and intermittent cropping can be carried on almost during the entire year. Every family orchard should have a plot devoted to small fruits, and where the conditions are exceptionally favorable and near to markets, they can be made immensely profitable when grown along commercial lines.

Logan and Mammoth Blackberries should be planted in rows four feet apart and eight feet between the rows. The best results are obtained by trellising the runners to wires on heavy posts, which will hold the wire taut. As soon as the fruiting season is past, the fruiting canes should be cut away and the new canes be bunched together and wound around the wire. At least two wires should be strung on the posts so that as soon as one wire is covered the remaining canes may be wound around the other. By following this method from year to year a heavy crop of large fine berries may be looked for annually.

NEW VARIETIES

Logan Berry. Originated with Judge J. H. Logan of Santa Cruz, Cal., from whom it

derives its name. This berry is unlike any other in existence, being a hybrid between the Raspberry and the Blackberry. The fruit is sometimes an inch and one-quarter long, dark red, as large as the largest Blackberry, and produced in immense clusters. It partakes of the flavor of both the Blackberry and Raspberry, a mild, pleasant, vinous flavor, delicious and peculiar to this berry alone; seeds small, soft and few; fruit ripens early, just after Strawberries, and before Blackberries or Raspberries. The vine or cane of the Logan Berry grows entirely unlike either the Blackberry or the Raspberry; it trails or grows upon the ground more like a Dewberry. The canes are very large, without thorns, but have very fine, soft spines; leaves more like those of the Raspberry than Blackberry. It is excellent for the table, eaten raw or stewed, and for jelly or jam it is without an equal. Ripe in May.

Mammoth Blackberry. Supposed to be a cross between the Wild Blackberry of California and the Crandall's Early. Grows entirely unlike any other Blackberry plant known. It is a rampant grower, trailing on the ground, and under favorable conditions will grow twenty feet in a season; the canes are large, of deep red color when exposed to the sun; the foliage is large, thick, of a deep green color; enormously productive and exceedingly early, ripening three weeks before other cultivated kinds; fruit enormous, specimens measuring $2\frac{1}{2}$ inches long; seeds small, soft and abundant; core small, soft; in size and flavor said to surpass all other varieties of Blackberries. Ripe in June.



The Mammoth Blackberry. See page 67.

THE BLACKBERRY

The most satisfactory way of handling Blackberries is to plant in rows from four to six feet apart. The plants send up a good many suckers but by following this plan of planting, there is always sufficient room to cultivate one way. When the plants commence to produce fruit all the canes which bore a crop should be cut off close to the ground in the winter and the new canes should be thinned out if too thick and the laterals on the canes which remain should be shortened in.

Crandall's Early. Everbearing; large and firm; very early; bears during the entire season.

Erie. Very productive of berries of the largest size; coal black, firm and solid; sells in the market at the highest prices; fine form; ripens early.

Evergreen. Introduced from Oregon; beautiful, lacinated foliage, which it retains all winter; berries large, black, sweet, rich and delicious; ripens from July to November; a fine berry for family use.

Kittatinny. Large, roundish, conical; glossy black; juicy, sweet, excellent when fully ripe; the most popular variety in California.

Lawton. Fruit large; ripens late; very productive.

Wilson's Junior. A seedling of Wilson's Early; said to be hardier and more productive than its parent.

THE DEWBERRY

The improved varieties of Dewberry or trailing blackberry are very popular. They are enormous croppers, produce fruit of the very best quality and ripen fully two weeks earlier than any of the blackberries. Plants should be set four feet apart in the rows, and these should be six feet apart. When there is not sufficient rainfall to keep the vines in active growing condition, irrigation should be practiced. Immediately following the first rainfall, all the vines should be cut back to within sixteen inches of the ground. The berries commence to ripen in the latter part of May.

Gardenia. Has become very popular in recent years; berries large glossy black, sweet, rich and delicious. Vines are very heavy bearers and when once established produce an abundance of fruit annually. Fruit ripens second week in May.

Lucretia. A trailing variety of the Blackberry, producing an abundance of large, glossy black, handsome fruit, of excellent quality; the fruit ripens much earlier than the Blackberry.

THE RASPBERRY

They do not grow as rank as the Blackberry, so may be planted three feet apart, but not less than six feet between the rows. New canes should be brought up each season and the old ones cut off close to the ground. The new canes should be topped at three feet from the ground and the lateral branches shortened in. Do not allow more than five canes to grow from one root. Liberal applications of rotted barnyard manure, thorough cultivation and irrigation judiciously practiced is sure to develop fruit of the very best quality and a liberal supply of it.

Cuthbert. Berries very large; deep rich crimson; fine; good for shipping; the most popular of all Raspberries; stands the sun and heat well.

Golden Queen. Large, beautiful amber color; firm and of fine quality.

Gregg. Of good size and fine quality; very productive and hardy. Occupies the same position among black caps as Cuthbert among the red sorts.

Hansell. Medium to large; bright crimson; canes vigorous and productive; very early.

Malboro. The largest early red Raspberry, ripening a few days after Hansell; beautiful bright scarlet; good but not high quality.

Mammoth Cluster. A large and very productive variety of the Black Cap; quality very good.

Souhegan. A valuable market variety; its earliness and large size make it one of the most valuable of the Black Raspberries; firm and sweet.

THE CURRANT

Currants are usually planted in rows four to five feet apart; the plants standing two to three feet apart in the rows. They will not thrive in the hot interior valleys, being subject to sunburn. It is only practical to grow them in the coast counties and they attain perfection when they get the benefit of the cool moist air from the ocean.

Prune in winter, thinning out the new shoots when they are too thick and remove the old unfruitful shoots. Thorough cultivation but not deep, is at all times advisable.

Black Naples. Very large and black; valuable for jams and jellies. The only variety which will grow in the interior valleys.

Cherry. Very large; deep red; fine for preserving; valuable market variety.

Fay's Prolific. A new Currant, which has well sustained the claims of its disseminator. It is larger than the Cherry, has less acid, and is much more prolific.

La Versailles. A French variety of very large size, resembling the Cherry; of great beauty and very productive.

White Grape. Large; yellowish-white; valuable for the table; the finest of the white sorts.

THE GOOSEBERRY

The gooseberry is just as averse to growing in hot dry climates as the currant, and it therefore finds conditions favorable for its perfect development in localities where the climate is cool and foggy. All attempts to grow it here simply result in failure. In the mountains, however, at an elevation of 5,000 feet, the gooseberry thrives and produces an abundance of fruit.

Gooseberries should be planted and pruned in practically the same manner as currants.

AMERICAN VARIETIES

Downing. Fruit good size; roundish oval; whitish-green; skin smooth; flesh soft and very good.

Oregon Champion. Berries very large; brownish-red color; very sweet and fine for table use and pies; bush strong, not very thorny; a very prolific bearer.

Smith's Improved. A seedling from Houghton; fruit quite large, and a stronger grower than the parent; light green; flavor sweet and excellent; very productive.

ENGLISH VARIETIES

Berkeley. Immensely prolific; large and handsome; ripens very early; always commands a high price.

Industry. Regarded as the best English Gooseberry yet introduced; the fruit is of the largest size; dark red and hairy; rich and agreeable.

THE STRAWBERRY

Adapts itself to a wide range of soils and climates, and in this respect it differs from the other members of the berry family.

Strawberries bear almost the entire year in several of the coast counties, and the same may be said of the plant in the interior valleys, where they are properly mulched and irrigated. In laying off ground for strawberries, the first essential point is to grade the plot so it has a gradual fall so that no part of the rows will become submerged in irrigating. There are a number of methods for laying out strawberry beds but the one mostly followed by commercial growers is to plant in rows hilled up and about two feet apart with a ditch between for irrigating. Set the plants one foot apart in the rows. The best time to set the plants is late in the fall after a heavy rain or any time in January or February. It is very important during the fruiting season to keep the plants in an active state of growth by irrigating, weeding and cultivating. In order to obtain large, highly flavored fruit, pinch off the runners as fast as they appear, and this will cause the plants to stock out as it were, on which the very finest strawberries may be expected the following season.

Brandywine. Large, roundish, conical; of fine quality; flesh firm; a valuable medium to late variety.

Jessie. Large, handsome; roundish, conical; dark red; firm and of good quality; plant vigorous and productive.

Longworth's Prolific. One of the best-known varieties in this State; an old favorite, always commanding a high price in the markets.

Laxtons Noble. Berries extra large, fine flavor, firm, excellent shipper; well adapted for hot climates.

Marshall. One of the best all-purpose berries; very large, roundish; dark rich crimson; quality good, firm; a good market sort.

Sharpless. This old and well-known sort is still very popular, and is probably more extensively cultivated than any other variety; fruit large; bright scarlet; flesh light red; moderately firm, sweet, rich and of good flavor; very profitable for market and also for home use.

ESCULENT ROOTS

ARTICHOKES

This grand vegetable having its season in California from late in the spring and extending into the summer months should be universally planted, for it not only lends a tropical appearance to the garden, but in addition to this produces a great profusion of flower buds which are most delicious. Suckers should be planted in the winter months in rows three feet apart with six feet between the rows. The flower buds should be cut off as soon as they are well formed and before the scales open.

Large Green Globe. This popular variety yields buds of large size, with scales very fleshy at the base and set in a broad fleshy receptacle. If buds are cut as soon as ready yields a succession of crops in the season.

ASPARAGUS

Planting should be done in February or March. Mark out the rows six feet apart running two to three times in a row, getting the row as deep as the plow will turn the soil. Where the ground is hard loosen

up the bottom of the furrow with a cultivator closed up. Set the roots three feet apart in the rows, spreading out the roots. Then cover with about four inches of soil. Keep the ground in good condition by thorough irrigation and cultivation. Do not

amount of stock salt will promote the growth of fine large tender stalks. Cutting should be done just as soon as the asparagus begins to show itself through the ground. In the interior valleys it is necessary to irrigate.

Conover's Colossal. A standard kind of first quality; tender and highly flavored.

Palmetto. Southern origin; earlier, larger, tender, and more regular in growth than the above.

RHUBARB

Rhubarb finds its most congenial conditions along the coast although it can be successfully grown in the interior on deep rich soils. Before planting, manure the ground and then plow deep and get the soil well pulverized. Set the plants two to three feet apart, with four feet between the rows. The first year after planting, allow the plants to retain their leaves. The following winter give a liberal dressing of manure, covering same without injury to the roots.

Never strip the plant of all of its leaves and do not continue the cutting too late in the summer, as this will weaken the growth in the spring.

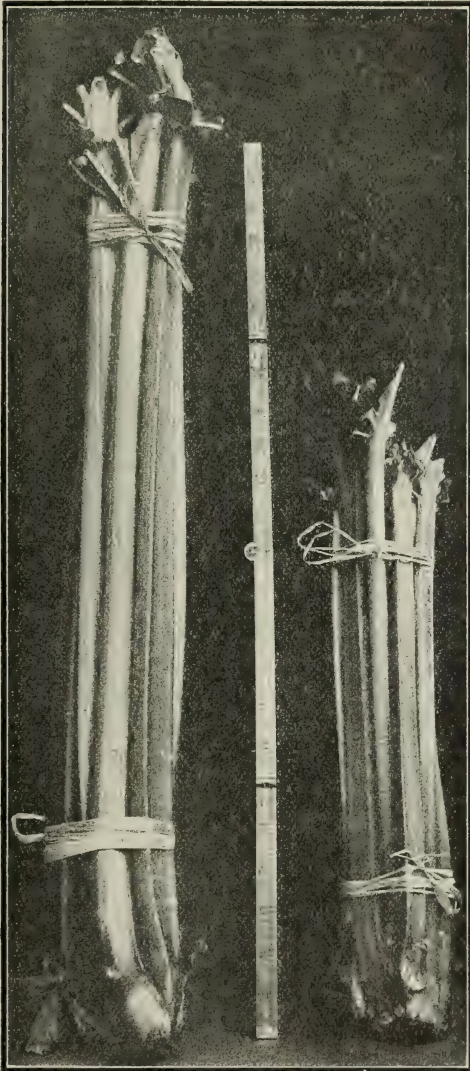
Burbank's Giant Crimson Winter Rhubarb.

This is a new and distinct variety which must not be confounded with the Crimson Winter Rhubarb introduced a few years ago. In habit it is a robust grower and prolific producer of mammoth stalks, three times the size of the older sort, and can only be grown by divisions of its roots. It thrives amazingly during the winter months, is of fine flavor, juicy and smoothly acidulous to the taste, combining a flavor suggestive of pineapple and ripe loquats. Merits consideration alike of the home garden and the commercial grower. Dealers predict for it a big demand in the eastern market during the winter months, hence it is destined to take first place in Rhubarb culture wherever introduced. As Burbank pointedly says: "This new Rhubarb is three times larger than the ordinary Crimson Winter, of which it is a sport of inestimable value, hence an introduction of the highest merit."

Burbank's Crimson Winter. A vigorous grower, producing medium-sized stalks of good length during the entire winter; of a pale, greenish, crimson color, blooms freely, which is easily remedied by topping; practically a perpetual producer of fresh, crisp, stalks of delicious flavor. Excellent for forcing under glass or in open ground,—especially adapted to the long seasons of California.

Myatt's Linnaeus. Large, early, tender and fine; the very best of all.

HOP ROOTS



Burbank's Giant Winter Crimson Rhubarb.

The Smaller the Older Sort.

attempt to cut any asparagus until the plants have grown two years. After the frost has killed the tops, cut them off close to the ground and then follow with a plow, throwing the dirt away from the plants. In the spring, plow the earth back into the rows, leaving the plants under the ridge. The next season the bed will be ready for cutting and the method of handling should be in the same manner as has been recommended. Thorough manuring and a limited

ORNAMENTAL DEPARTMENT

ORNAMENTAL PLANTS.

No country in the world offers so many natural advantages for the grower of ornamental trees and shrubs as California. With a variety of climates embraced in a limited area from the torrid heat of the Colorado Desert to the balmy and equable climate of the southern coast counties, thence extending to the far northern counties, with their abundant supply of rainfall during the winter months, and where the temperature never goes above 70 degrees F., conditions prevail in which any variety of tree or plant from the temperate, sub-tropical and tropical zones finds surroundings and soils conducive to successful culture. California people are lovers of trees and are becoming impressed with the advantages which nature has bestowed upon them so bountifully, hence there is a steady and increasing demand for the very best that can be obtained in ornamental stock.

WHEN TO PLANT.

All varieties of deciduous trees should be planted in the dormant season from January to April, whenever sufficient rain has fallen to soften up the ground, so that large enough holes can be dug to receive the roots readily. Evergreens transplant best in the spring, just before they start a new growth, but can be planted even as late as May, or as soon as the new growth has hardened up some.

Palms should never be taken up in the winter; they transplant best in the early summer months or early fall when in a growing condition. Our plants are either balled or boxed in the fall of the year, so that orders for this class of stock can be filled during the winter months when other trees are being shipped. Palms handled in this manner can be planted at once. Before planting the ground should be thoroughly plowed or spaded and the holes should be dug sufficiently large to accommodate the roots, without cramping. Far better to dig the holes too large, and then fill in with surface soil, than to err on the other side, by having them too small. It is a safe rule to plant trees a few inches deeper than they stood in the nursery rows. Evergreens taken up with a ball of earth, should be handled with care so as not to break the ball. In planting, the rope used in tying the sacking to the ball should be cut, but the sack can remain or be allowed to drop to the bottom of the hole. The earth around the roots of deciduous trees should be well tramped and in case of evergreens, tamped with a bar, or heavy stick, to render it firm, then water freely. Never place manure or

fertilizer of any kind in the hole, as the young and tender roots will be killed and the plant otherwise injured, sometimes fatally.

PRUNING AT TIME OF PLANTING..

Deciduous forest trees should be cut back at least one-third, and all lateral branches removed, to six feet from the ground, allowing from three to five to remain, these forming the nucleus for a new head, which should have about one-half of their growth cut off. All bruised roots should be removed, and all others shortened in slightly. After planting, all evergreens, and especially the conifers, should have their branches shortened in at the base of the tree, cutting back at least a third of their growth. When completed the shape of the tree should resemble in appearance the outline of an acute triangle.

Other varieties should have their branches shortened and thinned out to secure good form. This pruning is necessary to reduce the amount of foliage, lessen evaporation, and to reduce the growth so that the remaining roots can retain life in the plant until such a time as it begins to develop; when root and top will grow in a corresponding ratio.

AFTER CULTURE.

Trees of all kinds require careful attention the first season after planting. The soil should be kept normally moist, and after each irrigation, well worked with a hoe or spade. In the hot interior valleys where the heat is intense, partial shading by building a skeleton frame and covering with burlap will do much to insure evergreens growing and becoming established.

Standard deciduous trees branching six to eight feet from the ground should have their bodies wrapped with burlap or paper the first and second years, to prevent sunburn.

PRUNING.

As far as possible, trees and shrubs should be allowed to assume a natural form. Nothing is more hideous than to see trees pruned to assume shapes and forms entirely foreign to them. The individuality of trees, is what renders a pleasing feature to our landscapes and makes them appeal to every lover of nature. In pruning the predominant idea should be to retain the natural shape of the tree, cut off straggling branches, thin out the head where it is becoming too dense, and to remove dead wood. This applies to deciduous trees. In evergreens the branches should be allowed to touch the ground, removing none, except in such instances where there are two parallel leaders, when the weaker one should be cut out. Nothing is more unsightly than to see a majestic evergreen tree, with the

branches removed and exposing to sight and ugly gnarled stem.

These remarks apply to specimens or individual trees. In hedges, to retain their form, cutting is necessary.

It is our constant endeavor to keep pace with the demand for this class of stock, while the experience we are gaining in this line of work, gives assurance that we are in a position to advise customers what they should plant, and what to avoid, in their particular section.

DECIDUOUS TREES

ACER. Maple.

This family comprises many of the most valuable trees for street and park planting. Many of the varieties are very valuable timber trees and when manufactured into lumber command the very highest prices, due to the fine grain and hardness of the wood. Some of the most highly prized varieties in the eastern states are not adapted to California conditions, and the beautiful Japanese types can only be grown in the coast counties where the air is cool and there is more or less fog during the summer months.

Acer Campestre. "English or Cork-barked Maple." A native of Europe attaining a height of 60 feet; a stocky tree, of compact, roundish habit, with rough corky bark full of deep fissures. An excellent variety in the interior as it does not sun-burn.

Acer Macrophyllum. "California Maple." A very vigorous growing variety with large dark green leaves; indigenous in this State and found growing wild mostly along creek bottoms. A grand shade tree doing well in the hot interior valleys, as well as in a cool climate.

Acer Monspessulanum. "Montpellier Maple." Native of Central Europe; forms a handsome, small tree, with rounded head; leaves equally three-lobed.

Acer negundo. "Box Elder or Ash-Leaved Maple." 70 ft. Large, fine-spreading tree of rapid growth; foliage ash-like, smaller than in other Maples; a fine avenue tree.

Acer platanoides. "Norway Maple." Europe 100 ft. A large, handsome tree, with broad, deep green foliage, and of very compact growth, rendering it one of the most desirable varieties for the street park or garden. A valuable variety in the interior valleys.

Acer platanoides Reitenbachi. "Reitenbach's Norway Maple." An excellent rapid growing and striking variety; foliage a beautiful greenish-red in the spring; changing to purple in midsummer and to blood-red in the autumn. A great shade tree.

Acer platanoides Schwedleri. "Schwedler's Norway Maple." A beautiful variety with very large deep bronzy red leaves and young shoots of the same color. A vigorous grower and most effective ornamental tree.

Acer pseudo platanus. "Sycamore Maple." A handsome, rapid, upright growing tree, a native of Europe; leaves large, deep green and smooth; bark smooth and of ash gray color. Adapts itself to a variety of climates and has been found to be well suited to the hot interior valleys. A grand shade and avenue tree.

Acer dasycarpum or eriocarpon. "Silver or Soft Maple." A rapid-growing tree of large size; irregular rounded form; foliage bright green above, silvery beneath; a favorite street and park tree. A very promising and distinct tree; should be extensively planted.

Acer saccharum. "Sugar or Rock Maple." A well-known native tree of stately growth; valuable both for the production of sugar and for its wood, and also very desirable as an ornamental shade tree. Should never be planted in hot dry climates as it burns badly.

AESCULUS. Horse Chestnut.

A beautiful family of trees adapted to cool, damp climates. Added to the fact of their being magnificent park and avenue trees, they possess another attraction, viz., great effectiveness when in flower in May.

Aesculus carnea. "Red-Flowering Horse Chestnut." 60-80 ft. A handsome tree of majestic habit; producing deep red flowers; very ornamental, and well adapted for lawn culture.

Aesculus Hippocastanum. "European Horse-chestnut." 60-80 ft. A handsome tree of regular form with showy foliage, and covered in the spring with panicles of showy, white-tinged, red flowers; a very ornamental tree.

ALBIZZIA.

Introduced from the Levant. A valuable tree as a single specimen. Of a spreading habit. We can recommend it most highly.

Albizzia Julibrissin. "Acacia Nemu." Asia and Africa, 30-40 ft. A handsome shade and avenue tree; fine, feathery foliage; highly adapted to California, and unsurpassed for grace and beauty. Very hardy and when covered with its mass of pink feathery flowers in the early summer months, presents a beautiful appearance.

ALNUS. Alder.

Prefers moist damp situations and when planted in such locations makes a beautiful shade and ornamental tree.

Alnus glutinosa. "European or common Alder." 70 feet. A remarkably rapid-growing tree, with roundish, wedge-shaped foliage; well adapted to moist situations.

Alnus glutinosa, imperialis. "Imperial-Cut-Leaved Alder." A stately, vigorous growing tree, of graceful habit, with large and deeply lacinated foliage; a grand lawn tree.

AMYGDALUS. Almond.

Amygdalus Davidiana alba. "White flowered Almond." This is the first tree to bloom in the spring; the flowers are large, single white and appear before the leaves. Very desirable on this account. When clothed with bloom it is very beautiful.

Amygdalus Davidiana rubra. "Pink flowered Almond." Similar to the above but with single rose-colored flowers.

BETULA. Birch.

As a class very hardy trees growing quickly and doing well even in exposed situations. Very beautiful and picturesque. Their graceful habit, silvery bark, pendulous airy branches, render them general favorites. Very handsome as single specimens on the lawn or as avenue trees.

Betula alba. "European White Birch." Europe to Japan. 80 ft. Remarkable for its elegance; very graceful with silvery bark and slender branches; quite erect when young, but afterwards assumes an elegant drooping habit.

Betula alba purpurea. "Purple-leaved Birch." A very effective variety with leaves of a rich purple above and a lustrous metallic hue beneath; branches slightly pendulous.

Betula fastigiata. "Pyramidal Birch." Of elegant pyramidal habit like the Lombardy Poplar; bark silvery white. Very handsome and ornamental.

Betula Nigra. "Red or River Birch." An American species attaining a height of 60 to 70 ft. Graceful with slender, numerous branches and remarkable for its ragged, reddish brown bark.

Betula pendula laciniata. "Cut-leaved Weeping Birch." A popular very attractive pendulous tree. Its tall, slender, graceful drooping branches, delicately cut foliage and silvery white bark, present a combination of characteristics rarely met with in a single tree.

BROUSSONETIA.

Commonly known as the Paper Mulberry. A beautiful tree and rather remarkable on account of its cylindrical catkins. The inner bark is used in China and Japan for the manufacture of a fine, delicate, quality of paper.

Broussonetia papyrifera. "Paper Mulberry," China and Japan. A bushy-headed tree of rapid growth, with light green, downy leaves; a fine tree for city streets; fruit round and covered with small succulent red seeds, not edible.

CARAGANA. Pea Tree.

Well adapted for grouping, of a dwarfish habit. When covered with its pea like flowers, it is very effective.

Caragana arborescens. "Siberian Pea Tree." A native of Siberia and Manchuria, 20 ft. Very ornamental; flowers yellow; leaves abruptly pinnate; tree of medium growth.

CARPINUS. Hornbeam.

Will grow in almost any soil. The wood is very hard and close grained and much used in making tools and other small articles. It stands pruning well and is very valuable for high hedges.

Carpinus Betulus. "European Hornbeam." Specimen trees will attain a height of 30 to 70 feet. Of upright growth; leaves are purplish in the spring, green later on and turn yellow in the fall. It is regarded as one of the best tall hedge plants of Europe, and when properly pruned, keeps its form well and is covered with a dense growth of foliage.

CASTANEA. Chestnut.

Finds conditions favorable for its perfect development in sandy and loamy soils, and will do well in the interior valleys where water can be applied when necessary. Subject to severe scald in hot dry climates and should be headed low.

Castanea sativa. (C. Vesca.) "Sweet or Spanish Chestnut." A native of Europe. 50 to 70 feet. A very ornamental tree, desirable for lawns, valuable also for its fruit which is very much larger than the American variety.

CATALPA.

Highly ornamental trees with large, bright green foliage and beautiful white or yellowish flowers in large showy panicles. The wood is very durable in the soil, and therefore much valued for fence posts and railway ties. They are effective tropical looking trees, adapt themselves to almost any soil.

Catalpa bignonioides. (C. syringifolia.) "Common Catalpa," S. United States. A rapid-growing, spreading, irregular tree, with large, heart-shaped leaves; remarkable for its clusters of white and purple fragrant flowers in spring.

Catalpa Bungei. "Chinese Catalpa." A remarkable species, forming a dense, round, umbrella-like head. Makes a beautiful tree when grafted or budded on a high stem; extensively used in formal gardening.

Catalpa Kaempferi. "Japan Catalpa." A Japanese variety somewhat dwarf in habit with deep glossy green leaves; flowers smaller than C. bignonioides, but very fragrant, cream colored, speckled with purple and yellow. A pretty lawn tree.

Catalpa speciosa. "Western Catalpa." Said to have originated in the Mississippi Valley and when mature attaining a height of 100 ft. Very similar to *C. Bignonioides*, but grows more rapidly and is taller. Valuable for forest and ornamental planting.

CELTIS. Nettle Tree. Hackberry.

Valuable as shade trees or as single specimens on the lawn, mostly with wide spreading head and light green foliage having the appearance of a nettle leaf hence the name. The straight grained wood is light and elastic and is much used for carving and small articles of furniture.

Celtis australis. A native of the Mediterranean region, 60 ft. A most valuable ornamental tree with rather slender branches and producing long, dark purple sweet fruits in the fall. Little known but worthy of more attention on account of its rare beauty and its adaptability to many soils and various climatic conditions.

Celtis Occidentalis, "Hackberry or American Nettle Tree." A rare tree of large growth, occasionally 120 ft. high, with numerous slender branches which spread out horizontally, and thick, rough bark, apple-like foliage but more pointed and much more heavily serrated; produces a small edible drupe of an orange-red color, when ripe. A most desirable tree for street planting. Does splendidly in this valley.

CERASUS. Cherry.

Trees are of a medium size, but are very desirable for street or avenue planting.

Cerasus Padus. "Bird Cherry." A native of Europe and Asia. Medium sized, wide spreading tree, covered with long racemes of white flowers in the spring and bearing a small black fruit resembling the Wild Cherry, but nauseous to most palates. When infused in whiskey or gin, it is said to greatly improve these spirits; very ornamental and thrives well in the San Joaquin Valley.

CERCIS. Judas Tree or Red Bud.

Cercis canadensis. "American Judas Tree or Red Bud," United States, 40 ft. A medium-sized tree, with perfect heart-shaped leaves. It derives its name of Red Bud from the profusion of delicate reddish-purple flowers with which it is covered in the early spring before the foliage appears; a very fine ornamental tree, thrives well in this valley.

Cercis Siliquastrum album. "White Flowering Judas Tree," S. Europe, 40 ft. Tree of the same habit as the above, but flowers are pure white. The wood is very beautiful and veined with black, takes an excellent polish and may be utilized for many purposes.

CHIONANTHUS. Fringe Tree.

Chionanthus Virginica. "White Fringe Tree." A small native tree of roundish form, with large, dark green foliage and producing loose panicles of pure white flowers, having narrow, fringe like petals; blossoms in April.

CLADRASTIS. Yellow Wood.

Cladrastis tinctoria. (*Virgilia lutea*.) "Yellow Wood." E. C. United States, 50 ft. One of the finest of American trees; of moderate growth; foliage of a light green color; flowers pea-shaped, white, sweet-scented, appearing in June in great profusion, in long drooping racemes, covering the tree.

CRATAEGUS. Hawthorn.

The Hawthorns grow in almost any soil and rank very high among flowering trees. They are particularly well adapted for beautifying small grounds and for grouping. There is quite a variation in the shape of the foliage and the flowers will vary in color from pure white to deep carmine. The showy fruit ripening in autumn makes them highly attractive and ornamental at that time. They can be trained into many forms by following out a systematic method of pruning.

Crataegus Oxyacantha. "English Hawthorn." Introduced from England and used very extensively there for hedges; flowers single white, sweet scented.

Crataegus Oxyacantha Pauli. "Paul's Double Scarlet." Flowers in clusters; very double, large and full, and of a deep crimson color; superior to any of its color.

Crataegus Oxyacantha alba plena. "Double White Thorn." Has small, double white flowers; a highly ornamental variety on account of foliage and flowers.

Crataegus Oxyacantha rosea plena. "Double Pink Thorn." Flowers in clusters, double, varying in color from pink to rose.

DIOSPYROS. Persimmon.

Diospyros Lotus. "Asiatic Persimmon." W. Asia and China, 40 feet. A rapid-growing tree, with smooth and glossy leaves, producing a small, reddish-yellow fruit.

FAGUS. Beech.

As a class they rank among the most beautiful and magnificent of deciduous trees. Their rich, glossy foliage and elegant habit causes them to rank very high as single specimens on the lawn or for grouping among other trees. The branches are very graceful and of a drooping habit. Require damp cool summer climates to grow to perfection.

Fagus sylvatica. "European Beech." Europe, 80-100 ft. A beautiful tree.

Fagus sylvatica purpurea. "Purple-leaved Beech." Foliage is deep purple in spring, changing to crimson in the fall. One of the grandest of all purple-leaved trees.

FRAXINUS. Ash.

The Ashes are very important forest trees and are valuable for avenue and park purposes, and grow mostly into tall broad headed trees, with light green foliage, turning yellow or deep purple in the fall. The wood is very valuable, being tough and straight grained, it is very largely used in the manufacture of carriages, for tools and for the interior finish of houses. Its favorite situation is any moderately damp soil.

Fraxinus Americana. "American White Ash." A tall, very straight tree attaining a height of 120 feet with broad round head and dense foliage of a dull bluish-green color. A magnificent avenue tree, adapting itself readily to California soils and climatic conditions.

Fraxinus excelsior. "European Ash." A beautiful majestic tree of rapid growth, with spreading head and gray pinnate leaves and black buds. Very similar to the preceding except that the foliage is somewhat smaller and of a deeper green. Suits our conditions admirably.

Fraxinus Ornus. "European Flowering Ash." Of moderate growth, 25 to 30 feet. Flowers greenish white, fringe-like, produced in early May in large clusters on the ends of the branches. Young branches purplish or livid with yellow dots.

GLEDITSCHIA. Honey Locust.

Gleditschia triacanthos. A strange but striking ornamental tree, with large branched reddish spines on trunk and branches; forms a broad graceful, rather loose head, with finely pinnate, glossy green foliage; the greenish flowers appearing in racemes in the early summer are followed by flat ornamental bean-like pods eight to ten inches long. As avenue trees they are very picturesque.

GYMNOCLADUS

Gymnocladus canadensis. "Kentucky Coffee Tree. U. S. 50 to 60 ft. A very ornamental, hardy tree of rapid, upright growth, with rough bark, and blunt cane-like branches, devoid of small twigs and with feathery bluish-green foliage. The name Coffee Tree comes from the fact of its seeds having been used as a substitute for coffee by the early settlers.

JUGLANS. Walnut.

These majestic trees of exceedingly rapid growth are too well known to require much description. Their value as avenue, shade and as single specimens is well known. They will grow well in most any soil but do best in a moderately moist soil. They have massive, deeply furrowed straight trunks, with spreading, airy tops. The wood is very valuable, is susceptible of receiving a

beautiful polish and is much used for cabinet making and for interior finish. A plantation of these trees would bring handsome returns within a period of twenty years for the wood it would furnish.

Juglans Californica. "California Black Walnut." A rapid growing native tree with spreading branches and with very dark and deeply furrowed bark. Foliage dark green, retaining its bright fresh appearance even in the driest of climates. Will do well in any fairly deep soil. Nut, flattened, very hard, smooth, kernel of good quality.

Juglans nigra. "American or Eastern Black Walnut." A very lofty tree of symmetrical form and majestic habit. Bark grayish black and somewhat furrowed. Leaves light green, rough, serrated and somewhat downy. Nuts globular, very hard and deeply depressed. Much slower grower than the preceding, more upright and readily distinguished from it by the difference in the foliage and the color of the bark. As an avenue tree it has few equals.

KOELREUTERIA. Varnish Tree.

Koelreuteria paniculata. "Varnish Tree." China and Japan, 20 to 30 feet. A charming small tree, with glossy, divided foliage and large terminal panicles of showy, golden yellow flowers; a most desirable tree for the lawn, particularly valuable for its brilliant golden blossoms produced late in the season when few if any trees are in bloom.

LIQUIDAMBAR

Liquidambar styraciflua. "Sweet or Star-leaved Gum." Bilsted. An elegant tree somewhat resembling the Maple, but having alternate leaves, star-shaped and of a beautiful glossy green color in the summer, changing towards the autumn to a bright red. Makes a fine symmetrical tapering head and is of moderate growth. A beautiful tree at all stages, but more so in the fall with its brilliant and brightly colored leaves.

LIRIODENDRON. Tulip Tree

Liriodendron Tulipifera. "Tulip Tree." Eastern U. S. and China, attains a height of 150 feet. A magnificent rapid growing tree of tall pyramidal habit, with light green, glossy, fiddle shaped leaves, and greenish yellow tulip like flowers. Known to lumbermen as Poplar and whitewood.

MAGNOLIA

These highly ornamental medium sized trees with their rich and brilliant foliage, and their lavish display of fragrant many hued flowers, are worthy of a place in every garden of any size. Planted in groups, their effect in the early spring with their brilliant colorings and their rich fragrance is grand beyond description. They are not adapted to hot, dry climates, sunburning badly.

Magnolia acuminata. "Cucumber Tree."

Ninety feet. A majestic, pyramidal-growing tree, with large, conspicuous leaves and yellowish-white flowers; fruit, when green, resembling a cucumber, hence the name.

Magnolia macrophylla. "Great Leaved Magnolia."

A beautiful species of medium size; leaves two feet long, hairy and white beneath; flowers of immense size, 8 to 10 inches in diameter. A rare tropical looking tree.

China berry tree; takes the shape of an umbrella; is of striking beauty, and is one of the handsomest of shade trees; shade very dense; foliage bright dark green; produces lilac-colored flowers, succeeded by a fruit with an external pulp, and a hard nut within. We are making a specialty of the culture of this, one of the most beautiful of all deciduous trees, and can recommend it as something extraordinarily fine; one of the best trees for this valley, thriving and growing luxuriantly in almost any soil.



Melia Azedarach umbraculiformis. The Texas Umbrella Tree.

Magnolia stellata. "Halleana or Hall's Japan Magnolia." A beautiful dwarf species, producing pure white, semi-double, fragrant flowers in April; earlier than any other Magnolia.

MELIA. Bead Tree. Umbrella Tree

The name Bead-tree has been given to the species of this genus on account of the use made of the seeds in Catholic countries, where the nuts are threaded for beads, having a natural perforation through the center.

Melia Azedarach umbraculiformis. "Texas Umbrella." The first tree that came to notice was found near San Jacinto, Texas. Entirely different from the Pride of India;

MORUS. Mulberry

The Mulberry trees are natives of the temperate regions in the Old and New World. Their widespread introduction into the United States dates back from the time of the silk worm mania about a half century ago when it was asserted that silk was to take the place of cotton. Only a few of the varieties produce fruit of any size, but their insipid sweetness make them of little value for culinary purposes. The trees are rapid dense growers and are popular for planting in hog pastures and chicken yards, the animals relishing the fruits keenly. A few trees in the vicinity of a cherry orchard are almost a sure protection from the birds as they will invariably go to the Mulberries first.

Morus alba. "White Mulberry." This is the common mulberry so extensively grown in Europe and Asia for its leaves which are used for feeding silkworms. Tree grows to be fifty feet high with medium sized, glossy green ovate leaves. Fruit small pale white.

Morus alba Tatarica. "Russian Mulberry." Brought to notice by the planting of them by the Russian Mennonite Colonists of the Northwest; valuable for its timber. Tree of a spreading habit, rapid growth and conspicuous by its rather large dark green, glossy leaves. Fruit of little value.

Morus multicaulus. "Italian." A strong growing small tree, with dull very large, thin roughish and long pointed leaves, very rarely lobed; and bearing small insipid fruits. Of all the varieties, this is considered to be the best in silk producing countries.

Morus nigra. "Persian or English Mulberry." A variety of slow growth, but producing the largest and finest fruit of all Mulberries; very productive; the fruit is large, black, one to one and a half inches long; very juicy, aromatic, with a sub-acid flavor; ripens from June to October; good for preserves.

Morus rubra, "Downing's Everbearing Mulberry." A very rapid grower; a valuable shade tree; produces a good fruit.

Morus rubra. "Lick's American Mulberry." Originated by the late James Lick; fruit large, black and of exquisite flavor; tree a strong, thrifty grower.

Morus rubra. "New American Mulberry." A rapid-growing tree, with fine, large leaves; very handsome and valuable as an avenue or shade tree; fruit large and black.

PAULOWNIA. Empress Tree

Paulownia Imperialis. "Empress Tree." Japan, forty feet. A rapid, tropical looking tree, with enormous, round leaves; produces large clusters of purple, trumpet-shaped flowers in the spring. If the tree is cut down to the ground each winter, new suckers will shoot up from ten to fifteen feet high, with leaves of immense size and splendid tropical effect.

PERSICA. Peach

There are but few trees, which are more beautiful in the early spring than the double flowering varieties of peaches. They blossom in April and the branches covered with a mass of beautiful highly colored flowers, makes them very enchanting and most attractive. Planted in groups with an assortment of colors, they are very pretty and effective. Should have a place in every garden.

Persica floreo albo plena. "Double White Peach. Flowers large, very double, pure white; superb.

Persica floreo rosea plena. Flowers very double, fringed, rose colored like small roses. Very pretty.

Persica sanguinea plena. "Double Red Flowering Peach." Flower semi-double, bright red; superb.



Double White Flowering Peach.

Persica foliis purpurea. "Purple or Blood-leaved Peach." Foliage of a deep, blood-red color; valuable on account of its handsome foliage and rapid growth. The tree should be cut back severely every winter.

PLATANUS. Plane Tree.

Platanus occidentalis. "American Plane, Sycamore or Buttonwood." A well known tree and quite common throughout the United States; branches spreading. Leaves heart-shaped at base, the short lobes sharp pointed.

Platanus orientalis. "Oriental Plane, Sycamore." S. E. Europe to India, 100 feet. A rapid, erect-growing tree, with bright green foliage; far superior to the common American Sycamore; thrives very well in this valley, and is a desirable avenue, street or park tree. More extensively used in southern Europe for avenue and shade purposes than any other variety. A grand tree.

POPULUS. Poplar.

Poplars are very rapid growing trees and thrive under a great variety of conditions as regards soil, but do best in damp situations and along watercourses. Their leaves are bright among other trees, of heavier foliage and give to a group a sprightly air. They are well adapted for windbreaks and are very effective when planted in groups by themselves.

Populus alba Bolleana. "Boles' Poplar." Of recent introduction; a very compact, upright grower, with glossy leaves, green above and silvery beneath; one of the most desirable poplars.

Populus angustifolia. Small pyramidal or conical tree, reaching 60 feet with slender twigs, small buds, and soft clear green foliage; leaves short stalked and green on both surfaces.

Populus balsamifera candicans. "Balm of Gilead." Eastern U. S. Of remarkably rapid and luxuriant growth, with large, glossy foliage; buds covered with a fragrant resin.

Populus deltoides aurea. (P. Van Geertii.) "Van Geert's Golden Poplar." Has fine golden yellow foliage, retaining its brilliancy throughout the season; effective in masses.

Populus deltoides Carolinensis. "Carolina Poplar." A very distinct tree making an upright pyramidal head; leaves large, glossy deep green. Valuable for avenue planting. A very rapid grower.

Populus nigra Italica. "Lombardy Poplar." This is one of the characteristic trees of parts of Italy and it is from the Italian province, Lombardy, that its common name is derived. Probably a native of Asia. A very rapid, erect growing tree with a tall spiry form and particularly striking and picturesque when grouped among other trees.

PRUNUS. Plum.

Prunus pissardi. "Purple-leaved Plum." Tree of medium size; wood and leaves dark purple; the fruit from its formation is also purple until it ripens; introduced from Persia. A singular, but very striking ornamental tree.

Prunus spinosa flore pleno. "Double-Flowering Sloe." A low spreading tree or large shrub from Japan, covered in spring with small, double daisy-like white flowers, succeeded by small dark purple fruit.

PYRUS MALUS. Crab Apple.

Low growing trees, admirably adapted for the lawn or for lending color to low growing shrubbery. These flowering apples have never received the attention they deserve. They should be widely planted.

Pyrus malus angustifolia. "Bechtel's Double-Flowered American Crab." Tree of medium size, covered in the early spring with large, beautiful, delicate pink colored and very fragrant flowers. Blooms when very young.

Pyrus malus floribunda. Single flower; carmine in bud, white when open; fruit very ornamental in autumn.

Pyrus malus Kaido. One of the most showy of the flowering apples; flowers light red and holding its showy fruits all winter.

Pyrus malus Medwietzkyanas. A variety from Siberia of recent introduction. Continues in bloom for two months; produces a large number of red flowers.

Pyrus malus spectabilis flore albo pleno. "Chinese Double White-Flowered Crab." Double white fragrant flowers in clusters.

Pyrus malus flore roseo pleno. "Chinese Double Rose-Flowered Crab." Has beautiful double rose-colored flowers two inches across, in April.

QUERCUS. Oak.

This grand family of trees noted for their great longevity comprises a vast assortment of varieties. Our selection consists of the very best sorts suited to the climatic conditions of California. Although of somewhat slow growth, when they attain size, their massive, rugged stems and twisted branches furnish an element of picturesqueness making them most desirable for planting as single specimens, also to bring out the best results in landscape effects planned on a large scale. The value of the wood for furniture, flooring and for innumerable other purposes is too well known to require elaboration here.

Quercus Aegilops. "Vallonea, or Velani Oak." A native of Asia Minor and the Grecian Archipelago, 50 to 75 feet high, with fully the same spread of branches. A magnificent shade tree remarkable for its enormous cups from an inch to two inches across. The cups are exported in large quantities from the Levant, being in great demand for tanning purposes. Recently introduced by us.

Quercus Cerris. "Turkey Oak." South Europe, 120 feet. A rapid, symmetrical grower; foliage finely lobed; leaves change to brown in autumn; fine for lawns.

Quercus coccinea. "Scarlet Oak." Eighty feet. A rapid-growing, pyramidal tree; especially remarkable in the autumn, when the foliage changes to a bright scarlet.

Quercus lobata. "Valley or Weeping Oak." One of the great and striking trees of California, attaining a height of 100 feet, with wide-spreading limbs and slender drooping branches.

Quercus palustris. "Pin Oak." 40 to 50 feet. Beautiful deep green foliage which changes to rich scarlet and yellow color in autumn. A magnificent tree for single specimens on the lawn, and unexcelled in beauty for street and avenue planting.

Quercus pyramidalis. "Pyramidal Oak." A handsome tree, with erect pyramidal branches; in general from it resembles the Lombardy Poplar.

Quercus robur. "English Oak." One hundred and twenty feet. The Royal Oak of England; a well-known tree of spreading, low growth; a majestic and grand shade tree in maturity.

Quercus rubra. "American Red Oak." 80 to 140 feet. An American species of large size and rapid growth; foliage purplish red in the autumn. One of the most striking of the Oak family but not adapted to hot, dry climates.

ROBINIA. Locust or False Acacia

These beautiful rapid growing trees adapt themselves to almost any soil condition and reach effective stages within a short time. Some of the more slow growing types mentioned are very handsome subjects for the ornamentation of shrubbery. The varieties flower from the early spring until summer. Among the most striking of the slow growing types are the *Hispida* and *Semperflorens*. The wood of the larger growing varieties is very hard and durable and is valuable for making posts and railroad ties. A plantation of locusts would within fifteen years prove to be a profitable investment.

Robinia hispida. "Rose-Flowering Locust." Of dwarf habit; beautiful rose-colored flowers; branches bristly; quite interesting.

Robinia Neo Mexicana. A new variety from Mexico, more of a shrub than a tree, branches covered with stout stipular prickles; flowers rose colored, calyx quite hairy. Very compact and of distinct habit.

Robinia Pseudacacia. "Common or Black Locust." Eastern North America, 80 feet. A rapid-growing tree, with spreading branches; a valuable timber tree; lumber used for various mechanical purposes. Flowers white appearing in spring.

Robinia Pseudacacia Bessoniana. "Umbrella Locust." (Thornless.) The most ornamental of all the locust family; forms a solid, compact head, with dark green, luxuriant foliage.

Robinia Pseudacacia Decaisneana. A vigorous, straggling-growing variety, producing an abundance of fine rose-colored flowers in the springtime.

Robinia Pseudacacia inermis. A medium sized growing variety with globe-shaped head, large dark green foliage and thornless.

Robinia Pseudacacia Semperflorens. A medium growing variety, flowering during the entire summer.

SALISBURIA. Maiden Hair Tree or Ginkgo.

Salisburia adiantifolia. (*Ginkgo biloba*.) A remarkable tree introduced to America early in the century and very effective avenue or lawn tree, combining in its habit the appearance of a conifer and deciduous tree. The tree attains a height of 80 feet. Foliage fern-like, yellowish-green, curiously lobed and marked with delicate, hair-like lines resembling a Maiden Hair Fern. The fruits which ma-

tures in the fall have kernels of a sweetish slightly resinous flavor, highly esteemed in China and Japan for food. Does not thrive in hot, dry climates.

SALIX. Willow.

Salix viminalis. "Osier Willow." Europe, Asia, 10-20 feet. Low-growing tree; valuable for making baskets.

Salix vitellina aurea. "Golden Willow." A handsome tree, conspicuous at all seasons, particularly in winter, on account of its golden yellow bark.

SOPHORA.

Sophora Japonica. "Japan Pagoda Tree." Sixty feet. A handsome, locust-like tree, but with better and darker green glossier foliage than the common locust; very desirable for the interior valleys; flowers creamy white, disposed in loosely branched panicles. Flower all summer; a valuable tree for bees. As a specimen or lawn tree, it has few superiors.

SORBUS. Mountain Ash.

These very ornamental trees all have handsome foliage, turning orange red in the fall. The fruits, which are scarlet are very showy and often remain on the branches all winter. They are not particular as to soil but do not thrive well in warm, dry climates.

Sorbus Aucuparia. "European Mountain Ash or Rowan Tree." Sixty feet. A fine tree, with dense and regular head, covered from July to winter with great clusters of bright scarlet berries.

Sorbus Americana. "American Mountain Ash or Dogberry." A tree of coarser growth and foliage than the European, and producing larger and lighter colored berries. Wood is valuable for handles of tools and similar small articles.

Sorbus domestica. "Service Tree." A round-headed tree, 30-60 feet high. White flowers produced in rather loose, tomentose corymbs. Small apple-shaped yellowish fruit with orange or red cheek. When the fruit is mellowed by frost and becomes brown and soft, it resembles a medlar in taste.

TAXODIUM. Deciduous or Bald Cypress.

Taxodium distichum. "Deciduous or Bald Cypress." Southern U. S., 150 feet. The latest tree to put forth green leaves in the spring; a distinct and handsome tree of slender habit, with soft, feathery foliage; the trunk is as straight as an arrow, and tapers regularly from base to tip; requires moist ground; a very desirable and ornamental tree.

TILIA. Linden or Lime Tree.

A rather rapid medium sized tree and adapted more particularly to coast climates. It is not very particular as to soil. As a source of honey for bees it ranks among

the best. Under favorable conditions the nectar drips from the flowers in a shower. The soft white wood is particularly adapted for veneering and it is very extensively used for making fruit, honey and other light packages.

Tilia Americana. "American Linden or Basswood." A rapid-growing, large-size tree with very large leaves and fragrant flowers.

Tilia platyphyllos. "European Linden." Ninety feet. A very fine pyramidal tree of large size, with large leaves and fragrant flowers; better suited to our climate than the former variety.

Tilia tomentosa. (T. sylvestris.) "White or Silver Linden." Showy, heart-shaped foliage; light green above and silvery beneath. Its handsome form and foliage render it worthy of being classed among the finest of our ornamental trees.

ULMUS. Elm.

This genus stands in the first rank in the great army of American trees. They grow very rapidly and are not over particular as to soil. They were held in high esteem by the ancients, not only on account of their leaves, which were dried and used as fodder, but also on account of their being used as props for vines. Elm wood is very hard and is used especially for wheelwrights work. The trees are not only very long lived but they are of majestic, graceful habit and with their wide spreading branches, straight, shapely trunks, they are great favorites for shade and avenue trees and for street planting. All of our trees are either budded or grafted, are true to their particular type; each tree as far as leaf form and habit is concerned being alike. The advantage of planting such trees in preference to seedlings must be apparent to anyone.

Ulmus Americana. "American White Elm." One hundred and twenty feet. A magnificent large tree, with drooping, spreading branches; requires moist soil; one of the grandest of our native forest trees. Does not adapt itself as well to the warmer dry climates as the European varieties.

Ulmus Americana nigra. "American Black Elm." A variety of the above, of more erect habit.

Ulmus campestris. "English or French Elm." Europe, Africa, Japan, 100 feet. An erect tree of rapid compact growth, with dark green foliage; very robust, attaining an immense size; one of the best in this valley.

Ulmus campestris antartica aurea. "Golden English Elm." A very handsome tree, with foliage of a uniform bronzy-gold color.

Ulmus campestris argenteo-variegata. "Variegated Elm." Large leaves, sprinkled over with silver spots; variegation constant; tree a rapid, erect grower.

Ulmus campestris Berardi. A miniature variety of Elm; tree of slender growth; pyramidal habit; deeply and delicately cut foliage.

Ulmus campestris Clemmeri. Medium size of moderate growth and fine form. A very popular avenue tree in Belgium.

Ulmus campestris monumentalis. "Monumental Elm." A slow-growing, dwarf variety, forming a straight and dense column; very distinct and beautiful.

Ulmus glabra vegeta. "Huntington Elm." Very erect; bark smooth; leaves large, of light green color; one of the finest of the European Elms. Is of erect habit and of more rapid growth than the English.

Ulmus suberosa. "Cork Bark Elm." One hundred feet. A valuable shade tree and very desirable for streets and avenues; young branches very corky; leaves rough on both sides.

Ulmus montana crispa. "Nettle-Leaved Elm." A rapid-growing, handsome variety, with long, serrated and undulating leaves; unique and beautiful.

Ulmus scarba atropupurea. "Purple-Leaved Elm." A striking variety with erect branches; leaves of a rich purple color when young.

WEeping DECIDUOUS TREES

The weeping trees stand in a class among themselves. They are particularly effective when standing as specimens on a lawn or when grouped along the outer edges of larger growing trees. They lend, so to say, a pleasing finish to a group of both evergreen and deciduous forest trees. They are budded or grafted on straight stems of the same species at a height of six to eight feet from the ground. To bring out their best points and make them show off to the most advantage, it is very important to prune them regularly every winter. A systematic thinning out of the branches which crowd and interfere and by careful attention to the shortening in of the extending limbs, and cutting to an upper limb or bud will do more than anything else to give to the trees an arbor like appearance. Nothing is more unsightly than to allow a thick mass of weak spindling branches, requiring a wooden frame work underneath to bring out the weeping effect. A properly pruned weeping tree is self supporting, and one with a perfect umbrella like form, in the pendulous branches almost touching the ground is sure to excite the admiration of the plant lover.

BETULA. Birch

Betula alba pendula, laciniata. "Cut-Leaved Birch." A charming tree with deeply lacinated foliage. Its tall, slender, yet vigorous growth, graceful, drooping branches, silvery white bark, and delicately-cut foliage present a combination of attractive characteristics rarely met with in one tree.



Morus alba Tartarica pendula. Teas's Weeping Russian Mulberry.

CERASUS. Cherry

Cerasus Japonica pendula. "Japan Weeping Cherry." a very pretty small-headed pendent tree covered with a mass of single white flowers early in the spring before the leaves appear.

Cerasus Japonica rosea pendula. "Japan Weeping Rose-flowered Cherry." One of the best pendulous lawn trees. The branches are slender and fall gracefully to the ground. The flowers are rose-colored and appear before the leaves.

CRATAEGUS. Thorn

Crataegus monogyna pendula. "Weeping Thorn." A pretty drooping variety, with slender branches; flowers crimson.

FRAXINUS. Ash

Fraxinus excelsior aurea pendula. "Golden Barked Weeping Ash." A conspicuous tree at all times, but particularly in winter, on account of its yellow bark and twisted branches.

Fraxinus excelsior pendula. "European Weeping Ash." One of the finest lawn trees, covering a great space and growing rapidly, and excellent for forming arbors and shady streets.

JUGLANS. Walnut

Juglans regia pendula. "Weeping English Walnut." Branches droop like those of a Willow; foliage similar to the ordinary Walnut; strong grower; good bearer, and good nuts; highly ornamental.

MORUS. Mulberry

Morus alba *Tatarica pendula*. "Teas' Weeping Russian Mulberry." A very graceful weeping tree, with long, slender branches, drooping to the ground, parallel to the stem; one of the most graceful of weeping trees.

POPULUS. Poplar

Populus grandidentata pendula. Weeping "Tooth Leaved Poplar." A variety with slender, drooping, graceful branches, like cords; foliage dark, shiny green and deeply serrated. A very rapid grower and becomes effective earlier than any other class of weeping trees. Deserving of extensive culture.

SALIX. Willow

Salix Babylonica. "Babylonian or Weeping Willow." The well-known Weeping Willow.

Salix Babylonica dolorsa. "Wisconsin Weeping Willow." A handsome weeping tree, with large, glossy leaves; a stronger grower, with a more pendulous habit, than the Common Weeping Willow.

SOPHORA.

Sophora Japonica pendula. A beautiful weeping tree of very regular and graceful habit. Its small stature, trailing branches reaching to the ground combined with the deep dark green, glossy leaves, makes it add much to the appearance of a small garden or lawn.

TILIA. Linden

Tilia petiolaris. "Weeping, White or Silver Linden," Europe. One of the finest of Lindens, with large foliage and slender, drooping branches.

ULMUS. Elm

Ulmus scabra pendula. "Camperdown Elm." Vigorous branches, having a uniform weeping habit, overlapping very regularly and forming a roof-like head; the leaves are large, dark green and glossy, and cover the tree with a luxuriant mass of verdure.

DECIDUOUS SHRUBS

The term shrubbery is usually applied to woody plants of comparatively small size. The line of distinction is difficult to draw but a shrub has as a rule, a number of stems springing from the ground while a tree has a single stem. Why is it that the value of shrubs is not more appreciated in California and they are not more extensively planted? The only inference is that they present a rather barren appearance in the winter and their exceptional beauty, their many variations in both color of leaves and flowers, is forgotten until they display their many attractions during the spring and summer months. Interspersed among larger trees, many varieties

when in flower give life to a landscape effect which would otherwise be dull and displeasing to the eye. In grouping shrubs, the aim of the gardener should be to have the taller growing kinds serve as a background aiming to have a gradual slope to the lower growing kinds. The ultimate effect of the grouping should be to have a continuous mass of varying foliage. As a boundary or screen for dividing fields or hiding unsightly fences, or for a background for flower gardens, they are unsurpassed.

ARALIA. Angelica Tree.

Form small trees and are very useful to give a tropical appearance to gardens.

Aralia Japonica. A striking shrub from Japan with large, deeply lobed maple like leaves, spiny stems, and covered with spikes of white flowers in September.

Aralia spinosa. "Hercules Club." "Devil's Walking Stick." A very fine native variety, with large doubly and triply pinnated leaves. The stout armed stems, large leaves and enormous clusters of flowers give this species a very distinct sub-tropical appearance.

BERBERIS. Berberry

Low growing shrubs, rich in their variety of leaf and habit. They are very attractive in the spring with their bright orange yellow flowers and in the fall with their red, dark blue or nearly black fruits.

Berberis vulgaris. A native species, with handsome, distinct foliage, and yellow flowers, succeeded by red berries.

Berberis vulgaris atropurpurea. "Purple-leaved Berberry." A very pretty shrub, with purple foliage; fruit is acid, and is highly esteemed for preserving; very effective in groups or masses, or planted by itself.

CALYCANTHUS. Sweet Shrub

Rather distinct shrubs, having an aromatic fragrance with large handsome foliage and sweet scented chocolate colored flowers. Should be pruned every winter to keep them in form.

Calycanthus floridus. "Sweet Shrub," Southern United States. A very desirable shrub with fragrant wood and rich foliage; flowers of a rare chocolate color, having a peculiar agreeable odor.

Calycanthus praecox, China, Japan. A very vigorous growing variety having larger leaves than the preceding.

CERASUS. Flowering Cherry

This is a very ornamental family of shrubs or small trees. They are especially well adapted for beautifying small grounds. The beautiful tinting of the flowers combined with their very effective appearance pushing out long before the leaves appear, makes



Double White Flowering Cherry.

them particularly desirable as early spring flowering plants. Our collection comprises both double and single varieties, varying in color from pure white to deep red.

CORCHORUS. Kerria

Corchorus Japonica "Japanese Rose." An old and well known favorite, of spreading habit and with double rose like flowers, an inch across of the deepest yellow, appearing in April.

Corchorus Japonica argentea variegata. "Silver Variegated-leaved Corchorus." A very pretty dwarf shrub from Japan, with small green foliage edged with white and flowers like the preceding.

CORNUS. Dogwood

A very desirable class of shrubs with handsome foliage, often assuming a brilliant fall coloring and with attractive flowers and fruits. Thrive in almost any situation, doing equally as well under the shade of trees as they do in sunny situations. They require severe pruning.

Cornus sanguinea. "Red-Branched Dogwood." A native of Europe; very ornamental in the winter, the bark being blood red.

Cornus sanguinea variegata. Beautiful variegated foliage; covered with white flowers in June.

CYDONIA. Quince

The Japanese Quince is a beautiful dwarf species, remarkable for the brilliancy of its

blossoms, which vary from the richest scarlet to the most delicate blush color. They are well adapted for single plants, on the lawn, for the edges of borders of groups of trees and for planting ornamental hedges. They are the first shrubs to blossom in the spring and the flowers appear in great profusion covering every branch, branchlet and twig before the leaves appear. The foliage is of a heavy texture, bright green and retains its color the entire summer, rendering the plants very ornamental. The fruit has a delicious fragrance but is entirely worthless for domestic purposes. Should be summer pruned to maintain compactness and to secure a profusion of blossoms.

Cydonia Japonica. "Scarlet Japan Quince."

Has bright scarlet crimson flowers in great profusion in the early spring, before the leaves appear.

Cydonia Japonica alba. Similar to the above except that the flowers are a delicate white or blush.

Cydonia Japonica candidissima. Flowers large, white; very striking shrub.

Cydonia Japonica Grandiflora Rosea. Flowers pink, very showy.

Cydonia Japonica Umbelicata. Flowers brilliant showy red, succeeded by large showy fruit. One of the finest.

DEUTZIA.

A genus of slender branched, graceful shrubs introduced from Japan, with very effective foliage, blooming in great profusion in the spring. The flowers are white and are produced in long racemes. One of the most attractive and deservedly popular of flowering shrubs. Requires severe pruning immediately after flowering.

Deutzia crenata flore pleno. (*Deutzia Fortunei*). "Double-flowered Deutzia." Flowers double white, tinged with pink. A most desirable shrub.

Deutzia candidissima. Flowers snowy white, one-half inch across with a funnel-shaped calyx; a vigorous grower and profuse bloomer.

Deutzia scabra. Flowers bell shaped in small bunches; foliage oval; very rough underneath; dwarf habit.

DIERVILLA. Weigela

This genus of very ornamental hardy deciduous shrubs was introduced from Japan. There are few shrubs more deservedly popular or any that have been more widely disseminated. They flower shortly after the lilacs, producing superb large, trumpet shaped flowers varying from pure white to deep red. Their foliage contrasts finely with the green of other shrubs, and for borders and interspersed among groups of trees they are very effective. To make them flower freely, they should be well pruned after flowering in the summer and thus give the short shoots formed a chance to ripen up.

Diervilla candida. "White-flowered Weigela." A very free flowering variety, flowers pure white and continuing to bloom through the summer. One of the very best.

Diervilla hybrida Lavalley. A straggling grower producing dark reddish purple flowers; the darkest variety.

Diervilla rosea. "Rose-colored Weigela." Introduced from China and considered by Mr. Fortune one of the best plants he discovered; of erect compact growth with handsome rose-colored flowers.

Diervilla Kosteriana Steltzneri. A very profuse bloomer; flowers dark red.

Diervilla Kosteriana nana variegata. "Variegated-leaved Dwarf Weigela." A neat, dwarf shrub, valuable for the clearly defined variegation of green and silvery-white in its leaves; flowers nearly white; it stands the sun well, and is one of the best dwarf variegated-leaved shrubs.

Diervilla Sieboldi alba marginata. Of erect habit. When the leaves are young the variegation is yellow, but as they mature it becomes silvery white. Flowers rose-colored. A beautiful variegated shrub.

ERYTHRINA. Coral Tree

Erythrina Crista-galli. "Coral Tree." This strikingly beautiful summer flowering shrub is deserving of the widest dissemination for it seems to find conditions in California causing it to grow to perfection. The flowers are of a bright brilliant crimson color, like immense peas, but four times larger, and are disposed in large terminal racemes. The young growth freezes every winter and should be cut off from the woody fibrous branches. The brilliant coloring of the flowers combined with the deep green of the foliage, lends to this plant an individuality which is all its own. Flowers profusely from early in the summer until late in the fall.

EUONYMUS. STRAWBERRY OR SPINDLE TREE.

Euonymus Europaeus. "European Euonymus." A small tree or shrub growing to 20 ft; leaves turn scarlet in the fall; produce medium-sized scarlet berries having every appearance of strawberries.

FORSYTHIA. GOLDEN BELL.

Introduced from the north of China; one of the earliest of the spring flowering shrubs, being completely covered in the early spring before the leaves appear, with tufts of rather large, pendulous bright yellow flowers, which grow two or three together from all parts of the rod-like branches.

Forsythia suspensa. An excellent shrub for the margin of groups; foliage deep green, flowers bright yellow; branches slender drooping.

Forsythia viridissima. Of erect habit, attaining a height of 10 ft. Leaves deep dark green, flowers greenish yellow.

HIBISCUS SYRIACUS. Althea or Rose of Sharon

These beautiful shrubs should receive much more attention than is being accorded to them. They are of the easiest cultivation and with their large, delicately hued bell shaped flowers appearing very profusely during the summer months, they are doubly interesting as there are comparatively few other trees or shrubs in blossom.

Hibiscus Syriacus Boule de Feu. Large, very double, well formed flowers of a beautiful violet red color.

Hibiscus Syriacus pleno fol. var. Variegated-leaved Double Purple-flowered Althea. A most interesting variety with foliage finely marked with light yellow and producing double purple flowers.

Hibiscus Syriacus Jeanne d'Arc. Double White. Plant strong grower; flowers pure double white.

Hibiscus Syriacus rubra pleno. "Double Red Althea." Light rosy red. A striking sort.

Hibiscus Syriacus totus albus. Single, pure white; very fine.

HYDRANGEA.

These very ornamental large leaved plants with their enormous corymbs of beautifully colored flowers are worthy of the most extensive cultivation. Conditions favoring their most rapid development are found in cool coast climates. In the interior valleys they require partial shade, and must be well supplied with moisture to bring out their many fine points. Their large delicately ribbed leaves and their wealth of bloom places them very prominently in the front as among the best of our summer flowering plants.

Hydrangea hortensis. A native of Japan, has large dark green leaves, and globular heads of rose-colored flowers. One of the hardiest and very free flowering.

Hydrangea hortensis Thomas Hogg. One of the hardiest, adapted to pot culture and outdoor cultivation. Flowers pure white, a very profuse bloomer.

Hydrangea hortensis variegata. Fine large dark green leaves, distinctly margined with silvery white; flowers rosy pink.

Hydrangea paniculata grandiflora. A magnificent shrub, one of the finest of the summer flowering plants, commencing to bloom in early August and continuing until frost. The immense heads of bloom which are cream color in bud, pure white when fully open, changing to pink and bronze with age, make a striking spectacle wherever planted.

LAGERSTROEMIA INDICA. Crape Myrtle

This very strong growing shrub adapting itself to almost any soil condition should have a place in every garden. The leaves are bright green, retaining their fresh color all summer; the flowers are produced in very large panicles at the ends of the branches during the entire summer. They are very pretty, having curiously crimped petals. Should be winter pruned to retain compactness of form.

Lagerstroemia Indica alba. "White Crape Myrtle." Flowers white, but not as strong a grower as the other varieties. Very rare.

Lagerstroemia Indica purpurea. "Purple Crape Myrtle." Flowers deep purple.

Lagerstroemia Indica rosea. "Pink Crape Myrtle." A very free bloomer; flowers pink; a most desirable shrub for grouping; very rapid growth.

LIPPIA. Lemon Verbena

Lippia citriodora. "Lemon Verbena." This old fashioned favorite is a low growing shrub, with long, narrow pointed leaves which emit a delightful fragrance, covered in summer with minute flowers in delicate pyramidal panicles. Very hardy in California.

PAEONIA. Peony

Paeonia Moutan. "Tree Peony." These immense and beautiful flowering shrubs were introduced from Japan. They bloom in April and in Japan they are very much prized and are regarded as among the best of their many flowering plants. Positions for planting should be selected where the influence of the sun's rays are not felt until late in the morning. The plant is a greedy feeder and should have an abundance of manure annually. The flowers are enormous in size, numerous and gorgeous in color.

PHILADELPHUS. Mock Orange. Sweet Syringa

A very vigorous class of shrubs, with large, handsome foliage and with white showy flowers in terminal racemes, or solitary on short branchlets, appearing in May and June. Very fragrant with an odor of the orange blossom, hence the name. They are well adapted to shrubberies thriving in any well drained soil and even under trees. They attain a height of from 12 to 15 ft. Pruning should be done after flowering as the flowers appear in wood formed the previous year.

Philadelphus coronarius. "Garland Syringa." Flowers pure white, delightful orange-blossom fragrance; one of the first to bloom.

Philadelphus coronarius flore pleno. "Double flowered Syringa. A variety with double, very fragrant flowers.

Philadelphus coronarius Aureus. "Golden leaved." A dwarf, compact shrub, with bright yellow foliage; very effective as a low foliage plant for edging.

Philadelphus grandiflorus. "Large-flowered Syringa." A tall bush of slender, twiggy habit, with large flowers slightly fragrant. Valuable for succession of bloom.

Philadelphus inodorus. Flowers very large, white, scentless; free flowering; a valuable sort.

Philadelphus Lemoinei. "Lemoine's Erect Syringa." Flowers yellowish white, semi-double, with delightful fragrance, completely covering the plant.

POINCIANA. Bird of Paradise

Poinciana Gilliesii. "Bird of Paradise." This very hardy shrub adapts itself to even the poorest soils and attains a height of eight to ten feet. Its light yellow large pea-shaped flowers two inches long, with their brilliant protruding red stamens produced in terminal racemes and appearing all summer renders it a very showy and worthy plant.

PUNICIA GRANATUM. Pomegranate

A native of Southern Asia where it is grown for ornament and for its edible fruit. As an ornamental shrub or small tree, it is much prized in the South of Europe and in many eastern countries. These fine shrubs do particularly well in California; flowers measure two inches across, are very double and appear all through the season. Pruning should be done annually to hold them in bounds and to promote leaf growth and a bountiful supply of flowers.

Punica Granatum alba. "White Flowering Pomegranate." A very rapid-growing shrub, with double, creamy white flowers.

Punica Granatum Legrellei. "Mme. Legrelle." Very fine, large scarlet flowers edged with yellow.

Punica Granatum rubra. "Scarlet Pomegranate." A very rapid-growing shrub, with deep, double scarlet flowers.

Punica Granatum nana alba. "Dwarf White Pomegranate." A small low growing shrub, with small shining dark green leaves and covered with large, double yellowish white flowers in the summer months, followed by medium sized fruits.

Punica Granatum nana rubra. "Dwarf Scarlet Pomegranate." A very handsome small shrub, with beautiful double scarlet flowers, blooms when very young. Fruits appearing in the fall are brilliant red, very showy but not fit to be eaten.

RHODOTYPOS. White Kerria

Rhodotypos kerrioides. A much branched shrub from 4 to 6 ft. high, introduced from Japan, with very pretty, deeply veined leaves, and pure white flowers, borne at intervals all summer, having

a rose like appearance, and followed in the autumn by small shining black fruits. It is quite rare and is worthy of wider cultivation.

RHUS. Sumach

Rhus cotinus. A low growing shrubby tree, covered in midsummer with large clusters of feathery flowers, giving the appearance of a cloud of smoke or mist. An unusual shrub, always attractive. The flowers have fine keeping qualities and are very pretty when used for house decoration.

Rhus glabra laciniata. "Cut-leaved Sumach." A very striking plant; leaves very large, deeply cut, and drooping gracefully from the branches, and turning to a rich red in autumn.

SAMBUCUS. Elder

These are showy, large shrubs, quite ornamental in flowers, fruit and foliage; they blossom in June; very desirable for grouping. To keep the plants in good shape the pruning shear should be used regularly every winter.

Sambucus nigra argentea. "Silver-variegated Elder." A valuable variety, with a silvery white margined foliage. One of the best variegated shrubs.

Sambucus nigra aurea. "Golden-leaved Elder." A handsome variety, with golden yellow foliage; a valuable bush for enlivening shrubberies.

Sambucus nigra laciniata. "Cut-leaved Elder." An upright growing variety with deep cut foliage. One of the most striking varieties of the group.

Sambucus nigra pyramidalis. "Pyramidal Elder." A new variety quite distinct from any of the old forms in habit of growth, being erect, and stately with very abundant massive foliage.

SPIRAEA. Meadow Sweet

An indispensable class of small to medium-sized shrubs, embracing a wide range of foliage, habit of growth, color of flowers and season of blooming; all of earliest culture in all soils.

Spiraea Billardi alba. "Billard's Spiraea." White flowers in dense spikes; blooms nearly all summer.

Spiraea Bumalda. Habit, dwarf and compact; flowers in clusters, rosy pink, appearing in great profusion during midsummer and autumn; very free.

Spiraea Bumalda Anthony Waters. "Crimson Spiraea." (New.) A valuable addition to our list of shrubs; a strong grower, free bloomer, not only in summer, but also during the fall. Said to be an ideal pot plant; in every way a grand Spiraea.

Spiraea callosa alba. "Fortune's White." A white flowering variety of symmetrical form and dwarf bushy habit. Flowers all summer.

Spiraea callosa macrophylla. Large-leaved. A robust growing plant, rather erect, flowers bluish white in small corymbs; leaves six inches long and presenting puckered appearance.

Spiraea callosa superba. "Fortune's Superb." Flowers deep rose; dwarf habit; a continuous bloomer.

Spiraea paniculata rosea. A vigorous grower with cymes of rose-colored flowers.

Spiraea prunifolia flore pleno. "Double-flowered Plum-leaved Spiraea." Purest double white flowers along the entire length of the small twigs; foliage oval, deep glossy green, assuming a brilliant shade in autumn.



Spiraea Reevesiana. Bridal Wreath.

Spiraea Reevesiana. "Bridal Wreath." This is the popular well known variety, with graceful arching branches, and round clusters of white flowers that cover the whole plant and cause it to be very much admired when in full bloom. Blooms in May.

Spiraea Thunbergii. "Thurnberg's Spiraea." Of graceful habit; branches slender and somewhat drooping; foliage yellowish-green; flowers small, white, appearing very early in the spring.

Spiraea ulmifolia. "Elm-leaved Spiraea." Covered with large white clusters of flowers in May. Has elm like foliage. A rather odd but interesting shrub.

Spiraea Van Houttei. This is the most beautiful of the early flowering Spiraeas. Similar to the Bridal Wreath but far more graceful habit, and the delicately poised white flowers with which the branches are covered in May gives it a most beautiful appearance. We can recommend it most highly.

STAPHYLEA. Bladder Nut

Staphylea Colchica. Introduced from the Caucasus Mountains, Russia, and growing from 6 to 10 ft. high. A fine early flowering shrub, with showy pinnate foliage and clusters of handsome pure white, fragrant flowers appearing at the same time as the Lilacs.

SYMPHORICARPOS. Snowberry. Waxberry

Quaint American shrubs well adapted for covering the ground under trees, and for massing at the edges of beds or borders of larger shrubs. The fruits which appear in the fall are snowy white and very persistent. Very picturesque and very pleasing additions to the winter landscape.

Symphoricarpos racemosus. "Snowberry." A shrub of very pretty habit, with small pink flowers and large white berries in clusters, which hang on the plant throughout the greater part of the winter.

Symphoricarpos racemosus variegatus. A shrub of similar habit but with variegated foliage.

SYRINGA. LILAC.

This well known class of beautiful flowering shrubs should have a place in every garden. They are adapted to all soils; are extremely hardy, and are among the best of our beautiful spring flowering shrubs. There are a large number of hybrids of *Syringa Vulgaris* or Common Lilac and our collection comprises a selection of the very best. Their sweet fragrance, great range of colors, ranging dark purple to lilac, pink and white, gives them a great prestige in the group of spring flowering plants. The double flowering varieties keep their blooms longer but they do not flower as freely and their panicles are not as graceful as the single ones. Immediately after blooming they should be pruned as far as necessary, as the flowers are always on the old wood.

Syringa Japonica. A new species from Japan becoming a good sized tree. Foliage dark green, glossy, leathery; flowers creamy white, odorless, in great panicles. A month later than other lilacs.

Syringa Persica. "Persian Lilac." Native of Persia. From 4 to 6 feet high with small foliage and bright purple flowers.

Syringa Persica alba. "White Persian Lilac." Delicate white fragrant flowers, shaded with purple. A rare but very fine variety.

Syringa Persica laciniata. "Cut-leaved Persian Lilac." A very erect growing kind with slender branches, foliage deep cut and very much pinnatifid; flowers light purple and borne in smaller panicles and pushing out two weeks later than any of the other varieties.

Syringa Villosa. A new species from Japan; flowers light purple in bud, white when open; valuable on account of flowering late. Foliage resembles that of the White Fringe.

Syringa vulgaris alba. "Common White Lilac." Flowers creamy white. The old and well known standard variety.

Syringa vulgaris purpurea. "Common Purple." The old tried purple variety, with very fragrant flowers; a strong grower.

Syringa vulgaris Ambroise Verschaffelt. Dark red in bud, large compact panicles when open. Flowers single; very distinct.

Syringa vulgaris Alba Grandiflora. Vigorous grower; trusses very large; pure white single flowers.

Syringa vulgaris Charles X. A strong, rapid growing variety with shining leaves and large trusses of single reddish purple flowers.

Syringa vulgaris Charles Joly. A very superior and strong sort; flowers double, reddish purple, very large.

Syringa vulgaris Lemoinei flore pleno. Panicles large; flowers reddish purple, semi-double.

Syringa vulgaris Madame Casimir Perier. Very recent introduction. Said to be one of the finest of the double white flowering types; large and compact panicles of the purest white. Highly recommended by the originators in France.

Syringa vulgaris Ludwig Spaeth. A new hybrid introduced from Germany; the panicle is very long, flowers large, single, fine and dark purplish red. The finest of its color.

Syringa vulgaris Marie Legraye. Large panicles of white flowers, valuable for forcing; one of the best single flowering varieties.

Syringa vulgaris Michael Buchner. Plant dwarf; panicle erect, very large; individual flowers medium, very double, color pale lilac, very distinct and fine.

Syringa vulgaris President Grevy. A beautiful new variety and among the host of new varieties, introduced in recent years, this one is one of the very best. A beautiful blue, individual flowers very double, three-quarters of an inch in diameter; the panicle is magnificent being 10 inches long and 5 inches across.

Syringa vulgaris Virginalis. Flowers pure delicate white; large, compact panicles.

TAMARIX. Tamarisk

Elegant, fine foliage and handsome flowering shrub, thriving in all soils; one of the best plants for growing near the seashore, as it will bear the greatest wind exposure with impunity. Does well also in the interior thriving under the most trying conditions where other plants would fail entirely. Flowers pink, in long, loose, tapering panicles.

Tamarix Gallica. Europe and Asia. Foliage exceedingly fine and feathery in appearance; branches long and slender; flowers pink, small, but very numerous, giving the plant a very showy appearance.

Tamarix Germanica. Of compact growth with upright, wand-like branches, leaves bluish green, minute; flowers light pink.

Tamarix hispida estivalis. A beautiful and elegant new sort, very vigorous, upright grower; leaves of a glaucous bluish green color; flowers bright carmine red; appearing in the summer and autumn. A great acquisition.

VIBURNUM. Snowball

Viburnum opulus sterilis. (Guelder Rose.) "Snowball Tree." A great favorite, produces an abundance of pure white globular flowers in May and June.

Viburnum tomentosum plicatum. "Japan Snowball." One of the choicest shrubs with remarkably healthy dark green foliage; flowers pure, delicate white in large globular heads, appearing in May. Far superior to the common variety, having a better habit, larger leaves, and much more free in blooming. One of the most popular summer flowering shrubs. In dry, warm climates must be shaded from the sun the first season to prevent burning.

VITEX. Chaste-Tree

Vitex Agnus castus. "Chaste Tree." "Hemp Tree." "Monk's Pepper Tree." A small tree or shrub with palmate leaves, scented like lavender. Particularly valuable for its late appearing pale lilac flowers, in pretty spikes. A very desirable tree.

XANTHOCERAS. Chinese Chestnut

Xanthoceras, sorbifolia. China, 15 feet. A tree of small stature with pinnate leaves like the Mountain Ash; flowers white, with red streaks about the base of the petals, appearing at the same time that the leaves push out in April. Very floriferous and a very desirable ornamental tree.

EVERGREEN TREES

Under this head are associated the trees which do not shed all their foliage at one time, thereby remaining green, although the old leaves do shed from time to time as they become overshadowed or crowded out by the younger foliage. It is the evergreen tree which has done so much to en-

liven the landscape of California during the winter months, and it is therefore no wonder that the eastern tourist coming from his bleak and snow bound home, should be charmed and fascinated with our invigorating and salubrious climate and our great wealth, in varieties of evergreen trees and shrubs.

Instructions relative to planting and pruning have already been given under the heading "Ornamental Department."

ABIES. Spruce

Abies alba. "White Spruce." Seventy feet. A native tree of medium size; foliage silvery-gray and bark light colored.

Abies Douglasii. "Douglas Spruce." Pacific Coast. Large, conical form; spreading, horizontal branches; leaves light green above, glaucous below.

Abies excelsa. "Norway Spruce." An elegant tree; a lofty, rapid grower and of pyramidal form; the branches assume a graceful drooping habit when the tree is twenty feet high.

Abies firma. Japan. An erect tree of great beauty attaining a height of 100 feet; leaves deep glossy green above, and paler beneath.

Abies Menziesii. "Sitka Spruce." A hardy and beautiful spruce having a habit similar to the White Spruce; foliage, rich blue or sage color; a striking sort.

Abies Nordmanniana. "Nordmann's Silver Fir." Very symmetrical; foliage massive, dark green, shining above and slightly glaucous below; an exceedingly handsome tree.

Abies pectinata. "European or Comb-like Silver Fir." Central Europe. A very noble tree with spreading branches and broad silvery foliage.

Abies Pinsapo. "Spanish Silver Fir." One of the most magnificent of the species, very regular and symmetrical in habit; leaves bright green above, faint silvery beneath. Well suited to warm climates.

Abies pungens glauca. "Colorado Blue Spruce." One of the most beautiful of all the Spruces; in form and habit similar to the White Spruce, but with foliage of a rich blue or sage color.

ACACIA.

This great family of plants comprises about 400 species and the genus is one of the largest known. We have confined ourselves to varieties of well known merit and the purposes for which these are best suited are enumerated below. The acacia finds conditions favorable to its very best development in California, for the climatic conditions are very similar to those of Australia and New South Wales, from which all the best varieties originate. Some of them are very rapid growers and make fine strong trees and may be used either for single specimens, street or avenue planting; others

have a tendency to grow in the form of immense spreading bushes and may be used to advantage for grouping, for they become effective within a very few years after planting. With good drainage and a bountiful supply of water in the summer months, it is astonishing how rapidly they grow. Nearly all of them are very floriferous, some of them commencing to bloom before the winter season is over with. As a class they are worthy of the widest dissemination in California.

Acacia armata. "Kangaroo Thorn." A spreading shrub with one veined ovate linear leaves and small yellow flowers in solitary globular heads. Height 8 to 12 feet. Excellent for grouping.

Acacia Baileyana. This is a strikingly beautiful moderate growing tree, with glaucous green pinnated foliage and covered in the early spring with racemes of lemon-yellow flowers which completely envelop the tree. Quite hardy, a magnificent specimen or avenue tree.

Acacia cultriformis. More of a shrub than a tree; leaves of a triangular shape, thick glaucous green; a very profuse bloomer, flower heads in axillary racemes. An odd but very interesting and beautiful shrub.

Acacia cyanophylla. "Blue-Leaved Wattle." Eighteen feet. Flowers yellow; leaves very large; often one foot long; glaucous green, almost blue; branches drooping.

Acacia dealbata, "Silver Wattle." A fine, rapid-growing tree, with glaucous or hoary feathery foliage, and covered in the early spring with racemes of golden yellow flowers. A fine avenue tree.

Acacia decurrens. "Green Wattle." This very rapid and erect growing tree is one of the best of the feathery foliaged varieties for park or avenue purposes. Branchlets with very prominent angles and decurrent from the petioles; leaves feathery, very deep dark green. Flowers whitish yellow, appearing in May.

Acacia Farnesiana. "Popinac Cassie." A much branching shrub with slender, minute spines and long narrow linear leaves; flower heads fragrant, globular, deep yellow. Grown in southern France for perfumery.

Acacia Floribunda. (*A. nerifolia*.) A rapid growing tree, with a pendulous habit, and with long narrow leaves; flowers in racemes, bright yellow. Useful as a street tree.

Acacia Giraffae. "Camel Thorn." (New.) Said to be the finest and grandest *Acacia* in Southwest Africa; pinnae in three to six pairs, with 30 to 40, very short rounded leaflets.

Acacia Glaucescens. Attains a height of 50 or more feet; leaves four to six inches long and pointed at both ends, flowers yellow, appearing in twin spikes.

Acacia latifolia. Of a drooping spreading habit and very valuable for grouping; foliage glossy green, lanceolate; flowers in pairs, golden yellow.

Acacia linifolia. A tall shrub, with long, narrow, straight rather thin leaves; flower heads in slender axillary racemes. One of the most desirable varieties for grouping.

Acacia leucophylla. Flowers yellow, leaves six inches long, ending in soft point; the whole aspect of the tree is silky.

Acacia lophantha gigantea. A very rapid growing tree, with feathery foliage, very handsome and profuse bloomer. Will grow on the sandiest of soils. Not hardy in the interior valleys.

Acacia melanoxylon. "Australian. Black Wood." A strong, upright-growing tree; very desirable for parks and street ornamentation. The popular variety for street and avenue planting.

Acacia mollissima. "Black Wattle. A fine, erect, upright-growing tree, with deep dark-green feathery foliage; flowers yellow and borne in racemes in the early spring; a rapid growing tree and well adapted to this valley.

Acacia pycnantha. "Golden Wattle." Of rapid growth; leaves long and narrow; flowers fragrant, brilliant yellow, coming in long, pendulous clusters.

Acacia pravissima. A tall shrub or small tree, very thorny; desirable for hedges.

Acacia salicina. A very free flowering variety, often with 20 flowers in a short raceme; the leaves are lanceolate, narrowed at base, thick, rigid, with a curved point; branches drooping.

Acacia suaveolens. A large growing shrub, with narrow lanceolate to linear leaves; flowers yellow, borne in short racemes, six to ten in a head.

Acacia verticillata. A spreading shrub or tree with long, linear leaves with 3 to 4 prominent nerves on each side and with spikes $\frac{1}{2}$ to 1 inch long extending the entire length of the young branches; flowers deep yellow. An excellent variety for grouping.

ARAUCARIA

For these magnificent, showy, most stately and beautiful evergreen trees, we are indebted to South America and Australia, but principally to the latter country. Few trees can compete with them for graceful elegance and symmetry and they are therefore not only in great demand for house decoration but are also valuable as specimen trees on lawns, for grouping and avenue planting. The variety most extensively used and most widely disseminated for house decoration is *A. Excelsa*, but it does not do well in warm, dry climates, or where there is much frost in the winter. In a cool, mild climate, it grows to perfection. The *A.*

Bidwilli and *A. Imbricata* find congenial conditions in the interior, but they should be shaded for at least eighteen months after planting in the open with a canopy of bur-lap until they become accustomed to the out-door conditions.

Araucaria Bidwilli. "Bunya-Bunya." Australia, 150 feet. A magnificent tree; branches in regular whorls, closely set with spiny, shining, deep green leaves; very handsome for the lawn and by far the finest and most attractive of all ever-green trees; thrives well here.

Araucaria excelsa. "Norfolk Island Pine." 200 feet. One of the handsomest of all trees; pyramidal in form and very symmetrical. Not hardy in the interior valley.

Araucaria imbricata. "Chili Pine," or "Monkey Puzzle," 100 ft. A fine tree of regular pyramidal form; leaves bright green, broad, thick, pointed and overlapping each other.

ARBUTUS. Madrone.

Arbutus Menziesi. "Madrone." 75 ft. The well-known native tree growing so abundantly in Coast Range; foliage thick, leathery, bright green; bark smooth; brownish red; flowers white, fragrant, succeeded by red berries.

CAMPHORA. Camphor Tree.

Camphora officinalis. "Camphor Tree." China, Japan, 40 feet. A rank-growing, very symmetrical, ornamental tree, thriving in a poor soil; bright green foliage and well adapted for the lawn, street or avenue planting. To prepare the camphor for commerce, the root, trunk and branches are broken up and treated with water in closed vessels, the volatilized camphor being sublimated on rice straw; no garden is complete without it.

CASUARINA. Beefwood. She Oak.

Native of Australia, with extremely hard-wood equaling in this respect the walnut and hickory. Its redness has given it the popular name of Beefwood. The branches are long and slender, and weeping with jointed needle like leaves. They are odd but beautiful ornamental trees growing well even in alkali soils. Of very rapid growth.

Casuarina equisetifolia. "She Oak or Beefwood." S. E. Australia, 150 feet. Of very rapid growth, branches drooping, leaves dark green, needle like, sheathed; a very handsome and striking tree; wood valuable for shingles and fuel.

Casuarina stricta. (*C. quadrivilvis.*) Is of more erect habit than the preceding. Does not grow as tall. The wood is very tough and is excellent for tool handles.

CEDRUS. Cedar.

These majestic trees, natives of N. Africa and Asia, with large spreading branches, rigid, scattered and clustered leaves are

valuable for the ornamentation of extensive grounds or for lining broad avenues where shade is not the desideratum. The tree does not like pruning either of top or branch and it is most strikingly effective when its lower branches sweep the ground and it rises like a pyramid to the leader.

The catkins appear in autumn and the cones require two years to reach maturity. It is said that the tree must be at least fifty years old before it will develop cones. It thrives well in all parts of California, and in the warmer valleys when once established is of very rapid growth.

Cedrus atlantica. N. Africa, 120 ft. A very handsome, pyramidal tree, with silvery green foliage; branches have an upright-growing tendency and are very dense; a fine tree for the lawn.

Cedrus atlantica glauca. A very fine, upright grower, with glaucous green foliage.

Cedrus Deodara. "Himalayan or Indian Cedar." Exceedingly handsome, with drooping branches and silvery-green foliage, forming a dense net work; the finest, most rapid grower of all Cedars, and worthy of a place in every garden.

Cedrus Deodara verticillata glauca. Foliage glaucous, with silvery hue; a very desirable and vigorous form.

Cedrus Deodara variegata. This is a very handsome tree, having the habit of the *Deodara*, with variegated foliage.

Cedrus Deodara Viridis. Of slender habit, very graceful, with bright green foliage.

Cedrus Libani. "Cedar of Lebanon." A magnificent tree, with short, horizontal branches and dense, dark-green foliage.

CEPHALOTAXUS. Cluster-Flowered Yew

Cephalotaxus Fortunei. China, Japan, 50 ft.. A handsome tree, with yew-like foliage and large plum-like fruit in clusters; branches long, slender and pendulous.

CRYPTOMERIA. Japan Cedar.

The most important timber tree of Japan, used extensively for house building, for making barrels, boxes and many other purposes. The wood is tasteless and very durable. In its native home, trees are said to attain a height of 130 ft. with trunks 30 ft. in circumference.

Cryptomeria Japonica. Large, elongated pyramidal tree, with straight slender, tapering trunk; covered with reddish brown bark and with frond like upward spreading branches; branchlets very numerous, usually alternate, bright green.

Cryptomeria Japonica elegans. Low dense tree, with horizontal branches and pendulous branchlets; leaves, linear, flattened, soft in texture. Autumnal color bronzy-crimson, which is retained throughout the winter.



Cedrus Deodara. Himalayan or Indian Cedar. See page 91.

CUPRESSES. Cypress.

This numerous family of trees, with aromatic foliage seem to adapt themselves to California conditions very well indeed. Some varieties, like the *C. Macrocarpa*, "Monterey Cypress," stands pruning well and is very largely used for hedges. They grow very well in the interior valleys, but their preference is a cool, more or less foggy climate.

Cupressus funebris. "Funeral Cypress." A noble tree with wide spreading, drooping branches and branchlets slightly flattened; especially adapted for cemeteries.

Cupressus Lawsoniana. "Lawson Cypress." A native tree, with elegant, slender, drooping branches; leaves dark, glossy green, tinged with a glaucous hue.

Cupressus Lawsoniana argentea. Of slender habit with very glaucous almost silvery foliage.

Cupressus Lawsoniana erecta viridis. "Upright, dense columnar habit with bright green foliage.

Cupressus Lawsoniana lutea. Of compact medium growth, with whole of young foliage a light clear yellow.

Cupressus macrocarpa. "Monterey Cypress." A native of California, and one of the most desirable of evergreens; stands pruning well; very extensively planted for hedges.

Cupressus macrocarpa Guadalupeensis. "Blue Cypress. An erect, pyramidal grower, with glaucous green foliage.

Cupressus macrocarpa lutea. "Monterey golden." A variety of the Monterey Cypress with foliage tinged with a golden hue.

Cupressus sempervirens fastigiata. "Italian Cypress." A tall tapering tree with erect branches growing close and parallel with the trunk; branches frond-like and covered with smooth, deep green leaves; very desirable for cemeteries and arches.

ERIOBOTRYA. Loquat

A native of China and Japan but much planted in the Gulf States and in California. Its very fragrant yellowish white blossoms borne in clusters, do not appear until November. It is an elegant decorative plant for the house, lawn, or for grouping, the foliage being large, dark, bright glossy green and very much crumpled. Fruits mature in April and May. See also "Miscellaneous Fruits."

Eriobotrya Japonica. "Loquat." A fine ornamental tree, with large crumpled, dark green, glossy leaves, and fragrant white flowers; producing a delicious, sub-acid golden-yellow fruit in the spring.

Eriobotrya Japonica variegata. Same as above, but foliage is variegated.

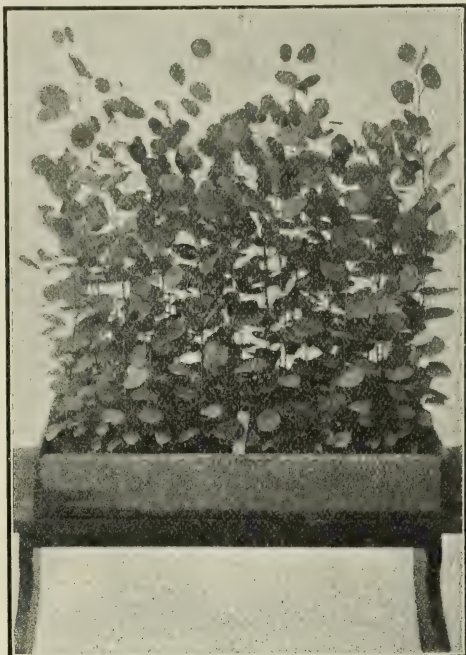
EUCALYPTUS. Gum Tree.

This great Australian tree has been more extensively planted in California, for avenue, shade, wood and timber purposes than probably all the other varieties of deciduous and evergreen trees combined. Most of the varieties attain a great size and the timber is used by ship-builders, railroad engineers, implement makers and for numerous other purposes in Australia, where it constitutes the chief supply of wood. The bark of several species yields a resin (Kino) containing tannin in commercial quantities, and this accounts for the name Gum Tree. The leaves of many species contain a volatile oil, which is distilled for pharmaceutical purposes. Several varieties are valuable for pasture for bees, their blossoms being full of nectar.

The climatic conditions of California are so nearly similar to Australia, that the Eucalypti have found a new home in which they promise to do as well or even better than in their native habitat. No farm, no

matter how small, should be without a few Eucalyptus, and this is emphasized particularly where fire wood is a scarce and an expensive commodity.

Our collection comprises the very best selected varieties out of the 140 or more named species.



A Flat or Box of Eucalyptus Rudis.

Eucalyptus amygdalina. "Pepper Gum." S. E. Australia. Belonging to this variety are the tallest trees in the world. In Gippsland, Australia, are trees over 400 feet in height. Yields more essential oil than any other variety. Conditions in California do not seem favorable to its rapid development, if anything a slow grower.

Eucalyptus calophylla. A moderate sized tree and in appearance differing from most other Eucalyptus. The bark is rough and brownish in color. The leaves are dark green and glossy above and feather-veined, their appearance giving the tree its specific name calophylla, the Green for "beautiful leaves." Flowers are unusually large, cream colored in large clusters. The urn-shaped seed cones are very large, so much so that they have been polished and used for pipe bowls. On account of its great profusion of bloom it is an important source of nectar for bees. Yields a large amount of kino and the bark is used for tanning.

Eucalyptus citriodora. "Lemon-Scented Gum." Queensland, 150 ft. A very pretty ornamental tree, with lemon-scented foliage; rather tender.



Types of Eucalyptus.

1. *E. Calyphylla*. 2. *E. Rostrata*. 3. *E. Crebra*.
4. *E. Polyanthema*. 5. *E. Rudis*.
6. *E. Ficifolia*.

Eucalyptus cornuta. "Yate Gum." A low spreading tree, with more or less uneven bark, younger branches smooth; the foliage is abundant; the flowers are large, quite conspicuous and in compact clusters, the two combinations giving a very attractive aspect to the tree. A valuable low wind break and shade tree. Does best in rich moist soil.

Eucalyptus corynocalyx. "Sugar Gum." S. Australia and Victoria, 120 ft. Very ornamental; rapid growing; with dark green leaves; timber very durable and used for railroad ties; one of the best.

Eucalyptus crebra. "Narrow-Leaved Ironbark." A very tall, straight, slender-growing tree, with dark, persistent, deeply-furrowed and ridged bark; timber heavy, hard, elastic and durable; used for masts,

railroad ties, and in the construction of wagons and bridges; perfectly hardy; should be extensively planted.

Eucalyptus ficifolia. "Crimson-Flowering." S. W. Australia. A most striking variety of dwarfish habit, with very large, dark green leaves, and producing large panicles of brilliant scarlet flowers; one of the most ornamental and effective trees among the Eucalyptus; very desirable for small gardens.

Eucalyptus globulus. "Blue Gum." Victoria and Tasmania. One of the most useful of all, and a very rapid grower; planted largely in all warm countries, on account of its malaria-destroying qualities; remarkably good for fuel, being easily sawed and split.

Eucalyptus goniocalyx. Said to reach a height of 300 ft. and a diameter of 6 to 10 ft. in Australia. A very rapid growing tree, doing well on the coast and interior, and thriving well even at elevations of 4000 ft. in the mountains. The wood is hard, tough and very durable in the ground, also makes an excellent fuel.

Eucalyptus gunni. "Cider Eucalyptus." One of the very hardiest sorts, standing very low degrees of frost and growing vigorously at elevations of 5000 ft. in the mountains. Grows to be 250 ft. high. A valuable forest tree. In its native home the sap is used by the aborigines for making a kind of cider.

Eucalyptus leucoxylon. "South Australian Blue Gum." A rapid growing tree said to adapt itself to a greater variety of climates than any other Eucalyptus, being as much at home at the coast as it is in the interior. It will grow under conditions where the ordinary Blue Gum will fail utterly. The foliage has a pleasing bluish cast and the wood is white and very straight grained.

Eucalyptus melliodora. "Honey-Scented Gum." Spreading tree, 120 ft. high. Grows well on both high and low land. The flowers are of medium size, in compact clusters, very profuse, very fragrant and therefore highly prized as a source of honey. Also known as the "Yellow Box." The wood is hard, tough, durable and is valuable for fence and telegraph posts, and for wagon work.

Eucalyptus occidentalis. "Flat-Topped Yate." A native of Western Australia, with large conspicuous flowers; the leaves are of medium size, quite thick and shiny, the two sides being similar in appearance; timber is valuable, and the tree resists drought; a very thrifty and attractive tree.

Eucalyptus pilularis. "Blackbutt." Slender growth, very retentive of foliage close to the ground. The flowers are in clusters of from 4 to 16. Especially valuable for telegraph poles on account of its very slender growth. Considered to be one of the best all around timber trees of Australia.

Eucalyptus polyanthema. "Red Box." A moderate grower; perfectly hardy; timber very valuable for underground work, being remarkably hard and durable; one of the handsomest of the family; very graceful in habit; foliage silver-gray.

Eucalyptus resinifera. "Red Mahogany." A very erect symmetrical tree, attaining a height of 100 ft. The tree furnishes a very valuable hard wood of a rich red color, resembling true mahogany, and is very heavy, hard and durable.

Eucalyptus robusta. "Swamp-Mahogany Gum." New South Wales, 100 ft. Well adapted to low ground and also to the driest locations; very symmetrical while young; quite brittle as it grows older; branches directly opposite in regular whorls; foliage large, of a deep glossy, green color; flowers, large, creamy-white; blooms late in the fall; very much prized by apiarists.

Eucalyptus rostrata. "Red Gum." S. Australia, 200 ft. Well known and highly esteemed in this section; the timber is unsurpassed for durability. An exceedingly rapid grower.

Eucalyptus rudis. A native of Western Australia and said to be a great resister of drought. The leaves on the young trees are almost round, later becoming long and of lanceolate shape. The flowers are creamy-white; worthy of extensive cultivation; it is a fine, rapid, symmetrical grower, outstripping in this respect the *E. Globulus*; the bark does not peel off; its branches, being very tenacious, are not easily broken even by the severest wind storms; it is very hardy, doing exceptionally well in cold and hot dry climates; as an avenue tree, is surpassed by no other variety of *Eucalyptus*.

Eucalyptus siderophloia. "Broad-leaved Ironbark." Attains a height of 150 ft. Bark dark brown, persistent, deeply furrowed; the leaves are large and broad, usually rather thick. Very hardy enduring low degrees of cold and maximum temperatures of heat. The timber is very strong and durable and is used for bridge building, railroad ties and other similar purposes.

Eucalyptus sideroxylon, rosea. "Red Ironbark." Medium to large with rough dark bark. Wood very hard and valuable for bridge work and for many other forms of construction where strength and durability are required. Leaves narrow lance-shaped and more or less silvery; flowers in clusters, light pink to a scarlet.

Eucalyptus stuartiana. "Apple Scented Gum." Of medium growth, quite erect and stocky. A great resister of frost, enduring temperatures as low as 10 to 18° F. Valuable for wind breaks. Timber is useful for fence posts and for fuel. The leaves when crushed give forth a pleasant odor somewhat resembling apples.

Eucalyptus tereticornis. "Forest Red Gum." Another rapid growing tree with very

durable timber, in general characteristics very similar to *E. rostrata*, but the timber is more durable. As a commercial timber tree in Australia it is said to lead all other varieties.

Eucalyptus viminalis. "Manna Gum." A rapid growing variety and very hardy; on rich soil it grows to a gigantic size; the young bark and leaves yield Australain Manna, a hard, opaque, sweet substance.

Eucalyptus Yellow Species. A new variety with beautiful yellow flowers. Introduced by Haage and Schmidt, the great seedsmen of Germany.

FICUS. India Rubber Tree.

Ficus Elastic. "India Rubber Plant." One of the most popular foliage plants for inside decoration, seeming to retain its bright, attractive appearance, even when neglected; leaves large, dark, shining green above and yellowish-green below. Can not be grown out of doors.

Fiscus macrophylla. "Moreton Bay Fig." Australia. Hardier than above and with somewhat smaller leaves; valuable as a decorative plant. Much planted in Southern and middle California where it forms a fine compact tree. In Australia, it is regarded as the grandest of all decorative and avenue trees.

GREVILLEA. Silk Oak.

Grevillea Robusta. "Silk Oak." "Australian Fern Tree." Australia. A very graceful, ferny-leaved tree of rapid growth, covered in the early summer months with large golden yellow combs of flowers and very attractive to honey-sucking birds and bees. Resists drought to a remarkable degree. Does remarkably well in all parts of California, and is one of the most stately avenue and lawn trees in the interior. When young, from two to five feet high, it makes a most graceful subject for house decoration.

ILEX. Holly.

The common holly with its innumerable varieties is well known. It thrives well in the coast counties, but in warm dry climates it must be shaded for a few years until it becomes established, otherwise it will sun-burn. The red berries contrasting with the dark green foliage, throughout the winter, have a very pleasing appearance, and the branches are in great request for Christmas decoration.

Ilex Aquifolium. "European Holly." Europe and Asia, 40 feet. A small tree, with shining, dark green thorny leaves, somewhat resembling the oak in form; in winter the tree is covered with bright red berries.

Ilex Aquifolium aureo-maculata. "Golden Variegated Holly." Leaves with a large blotch of creamy-yellow surrounded by a green border.



Magnolia grandiflora. The "Bull Bay" Tree.

JACARANDA.

Jacaranda mimosifolia. A most beautiful symmetrical tree with foliage as finely cut as a fern; flowers blue or violet, showy in terminal panicles, appearing in the early summer months. A favorite street tree in Southern California where it grows to a height of 50 ft.

JUNIPERUS. Juniper.

These extremely hardy trees seem to be as much at home in the warm interior valleys as they are in the coast counties. They are very ornamental, mostly of pyramidal or columnar habit and are very decorative either as single specimens on the lawn or if planted in groups. The low growing species are admirably adapted for covering rocky slopes or sandy banks. They are well adapted for hedges, for planting as shelter or wind breaks; also for seaside planting. The close-grained fragrant wood is much used for the interior finish of houses.

Juniperus communis hibernica. "Irish Juniper." An erect, dense, conical tree, resembling a pillar of green. It is the handsomest of all varieties of *Juniper communis*.

Juniperus Bermudiana. "Bermuda Juniper." A very beautiful tree, with foliage of a pale bluish-green color, and assuming a densely branched pyramidal form. This tree furnishes the wood used in the man-cat commonly grown for raisin purposes

Juniperus Japonica aurea. "Golden Japan Juniper." A very attractive variety of moderate growth, and spreading habit, foliage of a beautiful golden color.

Juniperus Sabina. "Savin Juniper." A low spreading shrub with reclining or trailing branches. Thrives best in a light soil and is valuable for rock work.

Juniperus Sabina variegata. Same as above, except that the small branchlets are variegated with creamy white.

Juniperus Virginiana. "Red Cedar." A well-known ornamental tree; usually of pyramidal form and having beautiful bright red heart wood. Attains a height of 60 ft. Its timber has an aromatic fragrance and is largely employed in the manufacture of utensils.

LIBOCEDRUS. Incense Cedar.

A valuable park tree and for single specimens on a large lawn. It forms a symmetrical, narrow pyramid, with bright green foliage. It is a very important timber tree, the wood being light, soft, close and straight grained, is very durable in the soil, and is used for fence posts, for shingles and for the interior finish of houses.

Libocedrus Chiliensis. "Chilean Cedar." 60 ft. Foliage glaucous green; branches spreading, pendulous, ascending towards the summit, and quite erect at the top.

Libocedrus Chiliensis variegata. A form of the above with golden variegated branchlets.

Libocedrus Chilensis viridis. Another handsome form of the same type having bright green foliage.

Libocedrus decurrens. "Incense Cedar." A very ornamental, distinct, erect, compact growing tree, with a stout trunk; branches a bright, rich, glossy green, glaucous underneath; a native of the Sierra Nevada Mountains. Does exceedingly well on the coast and in the interior.

MAGNOLIA

A native of the extreme southern states, reaching the greatest perfection in Louisiana along the Mississippi and recognized as one of the grandest of all broad-leaved evergreen trees. In its native habitat it often attains a height of 100 ft. The flowers are extremely fragrant, measuring from 10 to 12 inches across. They bloom very abundantly in May and June and have a scattering of flowers all through the fall. The flowers are succeeded by cone-like fruits from which seeds of the deepest coral red issue in October. Does fully as well in the coast counties as in the interior. A grand avenue, park or lawn tree.

Magnolia grandiflora. "Bull Bay." 80 ft. The most noble of American evergreen trees; foliage is thick, brilliant green on the upper surface and rusty underneath; the flowers are pure white, of immense size and very fragrant.

Magnolia grandiflora exoniensis. Bears large, pure white, double flowers when only a few feet high; the hardiest variety of Magnolia, succeeding in localities where others fail entirely.

Magnolia La Gallisonniere. A hardy variety, leaves with upper surface glossy green, under surface russet brown.

PARKINSONIA.

Parkinsonia aculeata. A very rare, odd and beautiful thorny tree with pine-like leaves and feathery drooping branches, flowers an inch across, yellowish. Will thrive in the driest locations. As a specimen tree or for lawns it would be sure to attract marked attention. Attains a height of 30 feet.

PINUS. Pine.

The family of Pines is probably one of the most important of timber trees. The trees are usually tall with spreading branches forming a pyramidal or rounded-top and becoming very picturesque in old age. They are much used for subduing shifting sands and for seaside planting. They are all valuable for the decoration of parks, gardens, and for grouping among other trees.

Pinus Austriaca. "Austrian Pine." A robust, hardy, spreading tree, with long, dark leaves. Thrives in even the most exposed situations.

Pinus Coulteri. "Pitch Pine." California, 80 ft. Tree with stout branches, pendulous below and ascending above, forming a

loose pyramidal head; a handsome and distinct tree; cones of the largest size 12 inches long and 6 inches in diameter and weighing between 4 and 5 pounds.

Pinus Halepensis. "Aleppo Pine." Mediterranean region, 60 ft. A fine variety, with dense, bluish foliage. A very valuable variety in the interior.

Pinus insignis. "Monterey Pine." A very fine Pine, a native of California, being particularly well adapted to our coast counties, thriving best where it gets the benefit of the coast breezes. It is of pyramidal habit, with dark, deep green, slender, flexible leaves. In the interior valleys where irrigation is practiced it dies out within ten to twelve years.

Pinus Lambertiana. "Sugar Pine." The tallest of all Pines; has an enormous girth, the massive perpendicular trunk being generally bare of branches two-thirds of its height from the ground. Presents an elegant appearance when young. Its timber is the most valued of all pines in California.

Pinus Laricio. "Corsican Pine." Is easily recognized by its straight, erect habit, and the tendency of the branches to curve in a direction round the tree. Forms a symmetrical pyramid. Foliage large, twisted, glaucous. Does well in rich soils and low situations.

Pinus montana. "Swiss Mountain Pine." A handsome, low-growing, spreading tree or shrub, ornamental as single specimens and for a decorative base to large growing group of trees.

Pinus Pinea. "Parasol or Stone Pine." South Europe, 60 ft. This very picturesque tree thrives best in a sandy soil in a sheltered situation, branches spreading like a parasol and usually confined to the top of the tree. A feature of the landscape in southern Italy.

Pinus ponderosa. "Yellow Pine." 150 ft. A noble tree; very rapid grower and perfectly hardy. One of the great timber trees of California. The bark is divided into large, flat, smooth plates.

Pinus Pinaster. (Maritima). "Cluster Pine." A beautiful tree of variable habit, bark deeply furrowed; leaves bright green, stiff, ten to twelve inches long.

Pinus Strobus. "Weymouth Pine." A compact grower, with light green silvery foliage. A handsome tree. Adapts itself to a variety of situations.

Pinus sylvestris. "Scotch Pine." Europe and Asia, 70 ft. A fine, robust-growing tree, with erect shoots and silvery-green foliage.

QUERCUS. Oak.

The evergreen Oaks are among our most picturesque trees, the *Q. agrifolia* with its bright, dark green foliage relieving the bareness of the hills during the summer months; in addition to this on the deep rich valley

lands it makes a fine low spreading tree, always effective. In late years more attention has been given to the Oak for avenue and park planting. We can recommend the tree highly for both purposes.

Quercus agrifolia. "California Live Oak." 50 ft. This is the well-known, majestic, evergreen growing so abundantly along the shores of San Francisco Bay.

Quercus Ilex. "Holly or Holm Oak." A variety of the European Evergreen Oak, of medium size and very upright growth. A beautiful tree for grouping.

Quercus Suber. "Cork Oak." S. Europe. N. Africa, 50 ft. A very ornamental and upright growing variety of evergreen oak; thrives well here; the outer bark furnishes the cork of commerce. A magnificent tree for avenues, parks or street planting.

RETINOSPORA.

These are dwarf growing trees of the Cypress genus and make beautiful specimen plants under favorable climatic conditions. Do not grow well in the interior, it being too hot.

Retinospora ericoides. "Japanese Cypress." A dwarf shrub with bright green branches above and glaucous beneath, assuming a ruddy tint in winter; very ornamental.

Retinospora plumosa aurea. A dense growing species with conical habit, young shoots and foliage of a golden yellow color.

SCHINUS. Pepper Tree.

Schinus Molle. "California Pepper Tree." This ornamental tree has been one of the greatest attractions of Southern California and justly so, for it is one of our most graceful and picturesque avenue, park or specimen trees. Its pendulous branches, feathery foliage, panicles of yellowish white blossoms, followed by rose-colored to deep red berries half the size of peas, present a series of combinations, causing this tree to be one of the most popular ornamental trees of California.

SCIADOPITYS. Umbrella Pine.

Sciadopitys verticillata. "Umbrella Pine." Japan, 100 ft. A very handsome tree, of slow growth; the branches are arranged in regular whorls and are covered with deep green, narrow leaves; a fine lawn tree. Not adapted to the interior valleys unless planted in a shady spot.

SEQUOIA GIGANTEA. California Big Tree.

People have traveled thousands of miles to see these famous world renowned trees which are extant now only in the Sierra Nevada mountains, California, and then only in a few isolated groups. They attain a height of 300 to 400 ft. and a few specimens a diameter of 33 ft. Monarchs of

the forest they rise like gigantic tapering pillars with not a branch to mar their symmetry up to 150 to 200 ft. The deep reddish bark on these giants is from one to two feet thick. Their age is a matter of guess work but it is calculated into thousands of years.



Sequoia Gigantea. The California Big Tree.

Sequoia gigantea. "California Big Tree." A magnificent avenue, park or specimen tree, rising like a tapering pyramid, the lower branches sweeping the ground. An excellent ornamental tree either for the coast or interior.

SEQUOIA SEMPERVIRENS. California Redwood.

Among the world's famous timbers the redwood of California stands well in the lead for building purposes. Its area is confined to a strip 500 miles long and extending more than 20 miles inland along the coast of California. It does not attain the diameter of the Gigantea, nevertheless trees 15 ft. in diameter are not uncommon. Its wood is far more durable and it is in every respect very much superior for building purposes to its closely related neighbor.



Sequoia Sempervirens. California Redwood Tree.

Sequoia Sempervirens. "California Redwood." A very valuable ornamental tree, of rapid growth and of a tapering pyramidal habit. Does remarkably well in all parts of California and makes a beautiful avenue or specimen tree. It finds great favor in Europe and is entitled to be much more widely used in California.

Sequoia Sempervirens pyramidalis compacta glauca. Same as the preceding with the exception that it is more compact and of a beautiful glaucous blue color.

STERCULIA. *Brachychiton*

Sterculia acerifolia. (*Brachychiton acerifolium*.) "Flame Tree." A sturdy tree of pyramidal habit with large light green, deeply lobed maple-like leaves. Produces masses of scarlet flowers, which are thrown out well above the leaves. Should not be planted in localities where there are severe frosts.

Sterculia diversifolia. (*B. populneum*.) "Victorian Bottle Tree." This magnificent street and avenue tree, as its effective and ornamental qualities are becoming

established, continues to be in great demand. One great point in its favor is that its roots do not interfere with the pavements in city streets and this one fact added to its charm, graceful tapering habit of trunk and foliage have given it a supremacy over many other trees. Its foliage, which is bright glossy-green, is constantly changing in shape, sometimes ovate, then ovate-lanceolate, and again 3 to 5 lobed on the same tree.

TAXUS. Yew.

The Yew is of geological antiquity and it is said to have formed part of the forest of Britain at a period long anterior to historic times. They are very desirable evergreens for park planting, being densely clothed with dark green foliage. They thrive best in a moderately moist, sandy loam and endure shade well. The wood is heavy, hard, close-grained, strong, elastic and of reddish color and is highly valued for cabinet making. In warm dry climates they must be shaded the first year.

Taxus baccata. "English Yew." A densely-branched, spreading bush, of a dark, somber hue; one of the best evergreens for clipping into artificial forms.

Taxus baccata argentea. (*T. elegantissima*.) "Dwarf Golden Yew." One of the most valuable golden-leaved evergreens; the leaves of the new growth are of a bright straw color; rendering the plant highly effective; of slow growth.

Taxus baccata fastigiata. (*T. Hibernica*.) "Irish Yew." "Pyramidal Yew." An upright growing variety with deep, dark-green foliage; branches erect, closely compressed forming a head which has the appearance of a dark, deep green column. A very distinct and beautiful variety.

Taxus baccata fastigiata variegata. Same habit as the above but having a portion of the foliage striped and margined with silvery white or pale straw-colored blotches.

THUYA. Arborvitae.

The Thuyas are all of regular, symmetrical habit and are great favorites for formal gardens. They are rounded more or less, pyramidal in habit and are well suited for massing or borders, also for hedges and wind-breaks. They bear pruning well. The Chinese varieties are somewhat dwarfish in habit and are therefore suitable for planting in small gardens. Their beauty is marred if their lower branches are cut off and their trunk is exposed.

Thuya occidentalis. "American Arborvitae." A beautiful native species commonly known as the White Cedar; especially valuable for screens and hedges.

Thuya occidentalis Ellwangeriana. A low, broad pyramid, with slender branches and clothed with two kinds of foliage. A novelty in its way and very ornamental.

Thuya occidentalis Hoveyi. "Hovey's Golden Arborvitae." A seedling of the American, of dwarf habit, globular outline and bright green foliage. Very distinct and well adapted for small gardens.

Thuya orientalis aurea. "Chinese Golden Arborvitae." One of the most elegant and justly popular; very compact and regular in habit; the foliage assuming a beautiful golden tint in the spring.

Thuya orientalis filiformis pendula. "Japan Weeping Arborvitae." A beautiful weeping variety with a straight trunk and pendulous thread-like branches and with leaves wide apart and acuminate; foliage light yellowish green. Very graceful and handsome.

Thuya orientalis sempaurescens. "Ever-Golden Arborvitae." A new variety of dwarf habit, but of free growth; retains its golden tint the year round; one of the very best of the variegated evergreen trees.

Thuya plicata. (T. gigantea.) California. A fine graceful Arbor Vitae, indigenous in California. Branches spreading, slender, regularly and closely set; foliage bright green and glossy above and dark green beneath; trunk buttressed and clothed with cinnamon bark.

THUYOPSIS.

These beautiful conifers are well adapted for planting as single specimens on the lawn or for grouping among other evergreen trees of slow growth. They thrive best in a sheltered and shaded position. They grow to perfection only in moist, cool climates.

Thuyopsis borealis "Nootka Sound Cypress or Yellow Cedar." 120 ft. A desirable species from Nootka Sound; it is pyramidal in habit, with light, glossy green foliage; sometimes with bluish shade.

Thuyopsis dolobrata. "Hatchet-Leaved Arborvitae." A most peculiar looking tree from Japan; leaves shining green above, silvery white beneath; of a pendulous and dwarfish habit.

Thuyopsis dolobrata variegata. "Variegated Axe-Leaved Arborvitae." Same as the above, only that the ends of the branches are tipped with a pale yellow color.

TORREYA.

Torreya Californicum. "California Nutmeg." 75 ft. A handsome, yew-like tree, forming a compact head and producing a nut very much resembling the nutmeg of commerce.

Torreya nucifera. "Japan Nutmeg." Tree varies from 30 to 80 ft. high; branches in regular whorls with yew-like aspect; leaves leathery, about an inch long, dark green, paler beneath; nuts oval about an inch long. This tree is entirely distinct from *Myristica fragrans*, a native of West Indies, furnishing the nutmeg of commerce.

UMBELLULARIA. California Laurel. Bay Tree.

Umbellularia Californica. "California Laurel or Bay Tree." 80 ft. A very rapid growing tree with glossy, lanceolate oblong leaves. Along the coast near water courses it grows to perfection and makes a strikingly handsome tree. The foliage emits an agreeable perfume when bruised.

EVERGREEN SHRUBS

ABELIA.

Abelia grandiflora. (A. Rupestris.) A garden hybrid. A pretty shrub of straggling growth, bearing small, fragrant, tube-like flowers during the entire summer, colored light rose on the outside and white on the inside. Deserving of a place in every garden.

ARALIA.

The Aralias, with the exception of *A. papyrifera*, are only adapted for house or conservatory culture. They are very pretty decorative plants and do remarkably well indoors.

Aralia papyrifera. "Rice-paper Plant." A very tropical looking small tree or shrub with very large, deeply lobed leaves light green above and downy beneath: It is of very easy culture and is so effective within a short time that it deserves to be generally planted.

Aralia Sieboldii. Japan. A beautiful plant, with large, glossy, palmate leaves.

Aralia Sieboldii variegata. Same as the preceding, except that the leaves are broadly marked with creamy white.

ARBUTUS. Strawberry Tree.

Arbutus Unedo. "Strawberry Tree." Foliage dark green, peculiarly beautiful in the fall, when the tree is covered at once with blossoms and ripe fruit, which is edible, identical in appearance with strawberries; a native of the South of Europe.

ARCTOSTAPHYLOS. Manzanita.

Arctostaphylos glauca. "Manzanita." Indigenous in the mountainous district of this state; produces an abundance of white flowers in racemes; followed by red berries, maturing in Fall; wood is very hard, is subject to a high polish and is valuable for canes. A fine large shrub for grouping.

ARDISIA.

Ardisia crenulata. (A. Crispa.) This very pretty handsome, dwarfish shrub with its dark shining green leaves, panicles of small white flowers, followed by drooping bunches of red berries, the size of peas, makes this plant very popular and particularly so at Christmas time. Can not be grown out of doors.

AUCUBA. Gold-Dust Plant.

Aucuba Japonica. "Gold-Dust Plant." Himalaya to Japan. A very handsome shrub, and one of the best of the colored-leaved foliage plants; leaves large, distinctly speckled with golden-yellow; should be grown in partial shade.

AZARA.

Azara microphylla. A graceful shrub with dark shining green leaves; flowers greenish yellow succeeded by orange colored berries. Very desirable as a single plant or for lawns. Does remarkably well in the interior.

BERBERIS. Barberry

Berberis Darwinii. A densely branched spreading shrub, with thick and leathery foliage; flowers orange yellow, very fragrant, followed by dark purple fruit; the best of the species.

Berberis ilicifolia. Especially prized for its low dense growth, brilliant red fruits, and its scarlet fall coloring.

BUXUS. Box Tree.

These very ornamental shrubs of dense but rather slow growth, with shining foliage are invaluable for grouping, lawn decoration and for hedge purposes. They thrive in a warm dry climate fully as well as on the coast. The very hard and close grained wood is in demand for engraving and finer turnery work.

Buxus sempervirens. "Common Box Tree." A handsome lawn shrub with small, deep green foliage; also very suitable for making hedges; wood is very hard.

Buxus sempervirens argentea marginata. Silver Striped-leaved Box Tree." Of the same habit as the above, but with silvery-striped leaves.

Buxus sempervirens aurea marginata. "Golden Striped-leaved Box Tree." Has its leaves variegated with golden color.

Buxus sempervirens suffruticosa. "Dwarf Box." A fine small bush, with glossy, roundish leaves; the variety so extensively used for edging.

CAMELLIA.

Camellia Japonica. Very beautiful winter flowering evergreens; their handsome, shining, dark green foliage and magnificent, wax-like flowers of various colors, render them indispensable for the conservatory, and well adapted for parlor or window culture; perfectly hardy in this climate, in the open ground, but should be planted in a shady place and protected the first year. We offer the single red and the double varieties, of various colors; also the variegated-leaved.

CARPENTERIA.

Carpenteria Californica. An ornamental, tall growing shrub; a native of the Sierra

Nevada mountains; flowers pure white, from three to four inches across, and very fragrant. A shrub which should have a place in every garden.

CASSIA.

Cassia corymbosa. An elegant evergreen shrub with glabrous branchlets and leaflets; flowers yellow, borne in terminal corymbs.

Cassia floribunda. Very similar to the above but the flowers are larger and more abundant. Appear all summer.

CEANOTHUS. New Jersey Tea

Ceanothus azureus. Mexico. Of easy culture; flowers pale blue, appearing in April and May; leaves acutely serrated, bright green above and downy beneath.

Ceanothus azureus Gloire de Versailles. A most desirable variety with exceedingly large blue flowers. A valuable acquisition.

CESTRUM.

Cestrum aurantiacum. A free flowering evergreen shrub covered with orange-colored flowers during the entire summer.

CHOISYA. Mexican Orange

Choisya ternata. "Mexican Orange." A pretty, low-growing shrub with glossy, bright green leaves, producing an abundance of white, sweet scented orange-like fragrant flowers on the tops of the branches in July.

CERASUS. Cherry

Cerasus ilicifolia. "California Evergreen Cherry." A bush or small tree sometimes making a height of 20 ft. Very ornamental with shining, dark glossy green holly-like foliage and found growing in the lower foot-hills throughout California. Flowers are produced in racemes and are followed by large red or black purple cherries, the stone almost filling them. A superb shrub and worthy of extensive cultivation.

COLLETIA.

Colletia cruciata. These extremely curious shrubs, with their elliptic flattened, very prickly and spiny leaves should be planted by themselves to bring out their striking outlines. In the spring they are covered with small white flowers. A very rare and odd shrub worthy of considerable attention.

COPROSMA.

Coprosma Baueriana picturata. A dense growing shrub, with bluntly rounded glossy green leaves. A fine decorative foliage plant and excellent either for lawn decoration or as a single specimen.

Coprosma Baueriana variegata. A handsome compact shrub very similar to the preceding, with the exception of the leaves having a broad white marginal variegation.

CORONILLA. Crown Vetch

Coronilla Glauca. S. Europe. A pretty evergreen shrub, with glaucous green foliage and covered during the summer with yellow flowers; fragrant in the day time. but scentless at night.

Coronilla glauca variegata. Identically the same habit as the preceding, except that the leaves are mottled with yellow.

COTONEASTER.

Cotoneaster microphylla. Well adapted for rockeries on account of their low, almost horizontal growth. They will thrive in any ordinary garden soil. Flowers small, white, appearing in May and followed during the fall and winter months with bright red berries.

CRATAEGUS. Evergreen Thorn

Crataegus Pyracantha. "Evergreen Thorn." "Burning Bush." Europe and Asia. A thick, thorny, evergreen shrub; valuable either when grown single, or as a hedge; foliage small, of a rich, dark, glossy green color; covered with white flowers, followed by masses of crimson berries, remaining on the plant all winter, making it very attractive.

DAPHNE.

Daphne odora. China and Japan. A low growing shrub, with dark, bright green foliage, and very fragrant white flowers appearing during the winter months.

Daphne odora variegata. Same habit as the above except that the leaves are variegated and flowers purplish.

DEERINGIA.

Deeringia celesoides. A very pretty, graceful growing shrub, with light green foliage. Valuable for grouping.

Deeringia celesoides variegata. A slender growing shrub, leaves margined white with long spikes of white flowers during the summer.

DATURA. Angel Trumpet

Datura arborea. "Angel Trumpet." A large shrub or small tree, leaves 6 to 12 inches long and clothed with a powdery pubescence; flowers large 7 to 8 inches long, trumpet-shaped, with a musk-like odor. Flowers all summer.

DIOSMA. Breath of Heaven

Diosma ericoides. "Breath of Heaven." A handsome little shrub, with heath-like foliage having an agreeable aromatic fragrance; flowers white, small, star-shaped, borne on the points of the twig branchlets. Very much used in floral work giving a very artistic and graceful effect to designs. Quite hardy.

DURANTA.

Duranta Plumieri. An elegant shrub with pretty blue flowers, borne in great profusion in racemes on the ends of the branches during the entire summer.

ELAEAGNUS.

Highly ornamental shrubs with handsome foliage and for this reason very decorative either on a lawn or as single specimens. Will do well in any ordinary soil and thrive remarkably well in the interior valleys.

Elaeagnus pungens. Spreading shrub 8 to 10 ft. with bronzy brown branchlets and large oblong undulated leaves, glossy green above and silvery beneath, with brown veins and interspersed with brown dots.

Elaeagnus pungens maculata. Foliage beautifully blotched with golden yellow. Does remarkably well in the interior.

Elaeagnus pungens variegata. Another variety of the same habit as the two preceding except that the leaves are margined yellowish white.

ERICA. Heath

Erica Mediterranea. "Mediterranean Heath." A small, compact evergreen; with feathery foliage, and producing purplish-pink flowers in the Spring.

ESCALLONIA.

These fine plants grow freely in almost any ordinary soil; they are well adapted as shelter plants for hedges. As foliage plants alone they are exceedingly attractive but add to this their very free flowering habit and they present a combination of qualities making them invaluable as all around purpose plants.

Escallonia montevidensis. (*E. floribunda*.) An erect bush with cylindrical branches and rounded, dark glossy green leaves; flowers white in large terminal panicles like cymes appearing during the entire summer.

Escallonia rosea. General habit same as the above, the flowers being light pink.

Escallonia rubra. Branches erect and clothed with glandular hairs, and of rather dwarf habit; shining green leaves and bright red flowers.

EUGENIA. Brush Cherry

Eugenia apiculata. An upright growing shrub with rounded, thick, dark green leaves, producing an abundance of small fragrant myrtle-like flowers.

Eugenia myrtifolia. (*E. australis*.) Commonly known as the double flowering myrtle. A neat little shrub with glossy leaves and crowned with an abundance of small double white flowers.

EUONYMUS.

A very interesting genus of evergreen shrubs; very desirable for hedges; stand pruning well; the variegated varieties are very effective when planted alone; are of very easy culture.

Euonymus Japonicus. Bright green leaves; can be trimmed in any way desired.

Euonymus Japonicus argenteo-variegatus. "Silver Variegated." A very choice, upright-growing shrub, with silvery variegated foliage.

Euonymus Japonicus albo-marginatus. "Silver-margined." A very compact shrub, leaves with narrow white margins.

Euonymus Japonicus. "Duc d'Anjou." Foliage light green, with center of the leaves variegated with golden yellow.

Euonymus Japonicus aurea. "Golden-leaved." A shrub highly esteemed for its mottled, golden yellow foliage.

Euonymus Japonicus microphyllus. (E. puchellus). A dwarf growing variety; with small, deep, dark green leaves; very desirable for low hedges.

Euonymus Japonicus radicans argenteo-marginatus. "Trailing Euonymus." A vigorous creeping variety, with light green, silver-edged foliage.

FABIANA.

Fabiana imbricata. South America. 3 ft. A very erect growing shrub with heath-like foliage and thriving in almost any soil. It is crowned in the summer with an abundance of white funnel-shaped flowers.

GARDENIA. Cape Jasmine

Gardenia florida. A very pretty shrub, with thick, evergreen foliage and large double, waxy Camellia-like fragrant flowers, blooming from May to September.

GARRYA.

Garrya elliptica. California to New Mexico, 8 ft. Leaves elliptical; dark green and shining above, hoary beneath; flowers orange-colored, arranged in elegant pendulous catkins from 6 to 9 inches long and proceeding from near the apex of the shoots; worthy of extensive cultivation.

GENISTA. CYTISUS. Broom

These very ornamental and free flowering shrubs will succeed almost in any soil or situation. The large pea-shaped flowers appear profusely in the spring and summer and are followed by small insignificant pods. They have erect stems and are apparently without leaves, the leaves being rounded and an elongation of the stem.

Genista Hispanica. "Spanish Broom." An upright-growing shrub; flowers yellow, produced very freely in the spring on long, pendulous, round, leafless branches.

Genista scoparius. "Scotch Broom." A very handsome shrub, with drooping branches; covered in the spring with bright yellow, pea-shaped flowers; very effective for grouping.

Genista scoparius Andreanus. This new Broom is a beautiful free bloomer, the flowers are of a rich golden yellow, with rich velvety purple crimson wings. A grand variety.

HABROTHAMNUS. Coral Plant

Habrothamnus elegans. A strong growing shrub, bearing panicles of small trumpet-shaped, purplish-red flowers. Makes a grand effect on a lawn or trained against a wall or porch.

Habrothamnus fasciculatum. Flowers of a deeper, purplish red, more compact and with a shorter corolla than the preceding.

HETEROMELES. Christmas Berry

Heteromeles arbutifolia. "Christmas Berry." A native shrub of California, growing quite abundantly in the coast counties and thriving equally as well in the hot, dry climate of the interior. In bloom in the summer, in numerous white panicles. Valued highly not only as a striking decorative plant but also for the deep red berries which hang in immense clusters on the ends of the branches from November to February. These berries are extensively used during the holidays and are known as Christmas Berries, Holly Berries, etc.

HYPERICUM

Hypericum hircinum. Of rounded, compact habit, flowers larger than the following. Of a more upright growth. Species characterized by the strong, goat-like odor of the leaves. Of very easy cultivation.

Hypericum Moserianum. "Gold Flower." A perfectly hardy shrub; producing large, single, yellow flowers of a peculiar satiny texture, in great profusion during the summer; should be in every garden.

LAURUS. Laurel

There are few foliage plants superior to the Laurel for inside or out of door decoration or ornamental purposes. They can be used advantageously as single specimens, for grouping and for embellishing the lawn and are very effective wherever planted. The *Laurus nobilis*, Sweet Bay Tree, is the most universal favorite of all evergreen tub plants and the exportation of "The Sweet Bay" from Holland and Belgium amounts to hundreds of thousands of plants annually. They are used for decorating in restaurants, hotel lobbies and in many other places where a striking decorative plant is required. They are trained into pyramids, cones, globes, and many other fantastic shapes. They will stand all kinds of abuse and neglect, and this is another reason for their popularity.

Laurus cerasus. "English Laurel." Southern Europe to Northern Persia, 10-15 feet. A fine, large evergreen; with broad, shining, green leaves; produces large panicles of creamy white flowers, followed by purple berries.

Laurus Lusitanica. "Portugal Laurel." A dwarfish shrub; with glossy, dark green leaves; flowers in large panicles intensely fragrant at night.

Laurus nobilis. "Sweet Bay." Mediterranean region, 40-60 ft. A very ornamental, upright-growing shrub; with deep, dark green, fragrant leaves, and covered in the Fall with berries; if properly pruned, one of the handsomest of decorative plants. The leaves are placed between the layers of the Smyrna Figs in Asia Minor and impart a peculiar pleasant flavor to the fruit. The leaves are sometimes used in cooking and the making of confections, because of their pleasant aromatic flavor. The wreaths with which the heroes of antiquity were crowned were made of this Laurel.

LIGUSTRUM. Privet

Ornamental shrubs or small trees with shining green leaves and small whitish flowers in terminal panicles, followed in the fall by black round berries remaining on the plant all winter. They adapt themselves to almost any situation doing as well in the shade as in the sun. They are valuable for hedges, single specimens and for grouping.

Ligustrum ciliatum. Dwarf, dense shrub, with short, rigid branches; leaves dense, glossy, dark green, leathery, ovate oblong, obtuse. A very compact growing evergreen.

Ligustrum ciliatum variegatum. Of the same habit as the preceding except that the leaves have a pronounced yellowish variegation, pink when young.

Ligustrum Ibota. A low dense growing shrub with almost horizontally spreading branches; ovate leaves, hairy beneath; berries round shining black.

Ligustrum Japonicum. A very large shrub; with glossy, dark green, leathery leaves; flowers white, borne in clusters; followed by purplish-blue berries; a very desirable hedge plant; stands trimming well.

Ligustrum Japonicum variegatum. Of more compact growth than the preceding; leaves margined and blotched creamy white; very effective for grouping.

Ligustrum lucidum. Leaves ovate, lanceolate, or nearly rotundate; leathery, thick, bright green. Of rapid growth and spreading habit. Young leaves greenish yellow.

Ligustrum ovalifolium. "California Privet." Japan, 12-15 ft. A pyramidal shrub, with bright green, medium sized leaves; producing white flowers in June; a valuable hedge plant.

Ligustrum ovalifolium variegatum. "California Variegated Privet." Variegation a fine yellow in young leaves, passing into white as the leaves get older. A vigorous compact grower.

Ligustrum Sinense. China. A shrub attaining a height of 10 ft., with slender, spreading branches and ovate lanceolate leaves, shining dark green above and light green beneath.

MAHONIA.

Mahonia Aquifolium. "Holly-leaved." A native variety with shining, purplish, prickly leaves; bright yellow flowers. A handsome compact growing shrub becoming very effective within a few years. Extensively planted in woodlands as an excellent covert plant.

Mahonia Japonica. Very distinct species with unbranched stems and leaves about one foot long; the bright yellow flowers are produced in terminal clusters of long racemes. Must be planted in a shady situation in hot, dry climates.

MELALEUCA

Melaleuca decussata. 20 ft. An Australian shrub; with glabrous foliage and covered with spikes of lilac colored flowers in August.

Melaleuca ericifolia. Flowers pale yellow, leaves leather like, spreading or somewhat recurved.

Melaleuca leucadendron. "Cajuput Tree." Flowers white in pendulous spikes, leaves alternate, long-lanceolate. A fine shrub or small tree. It is said that a volatile oil is obtained from the leaves and that the Australian aborigines use the bark for tinder, shields, canoes and for covering huts.

METROSIDEROS. CALLISTEMON.

Bottle Brush

Metrosideros robusta. "Bottle Brush." A very interesting and quaint shrub with narrow leaves and covered with rich, crimson flowers, in dense racemes in July.

Metrosideros semperflorens. A handsome shrub with thick, lanceolate leaves, reddish when young, spikes of reddish flowers rather loose. A more rapid grower than the preceding.

MYRTUS. Myrtle

Myrtus communis. "Common Myrtle." A dwarf shrub, with shining green leaves and fragrant white flowers; a very effective shrub in the interior valleys.

Myrtus communis microphylla. "Small-leaved Myrtle." A variety with small, dark green foliage set closely along the branches. A fine ornamental shrub, excellent for grouping.

NANDINA.

Nandina domestica. Japan, 3 to 5 ft. A beautiful upright growing dwarfish shrub with a number of reed like stems springing from the same root and about as thick as a finger and crowned with deep, glossy green leaves and with tall spikes of white flowers. The young growth is prettily tinged with red. In the fall it is covered with masses of small red and white berries. This elegant, graceful plant does well on the coast and interior and should grace every garden large or small.

NERIUM.. Oleander

We are making the growing of these beautiful plants a specialty, and have selected the following fine varieties as the best in our collection of over fifty sorts imported direct by us from the principal nurseries of Europe. Oleanders are particularly adapted to this climate and are deserving of more cultivation than has been given to them; their large, deep green foliage, combined with their fragrant flowers of many hues, which appear all summer, render them our most attractive and effective ornamental plants; the single and semi-double Oleanders are very floriferous, and equally as fine as the double ones; in fact, some of the very finest are among the single varieties. For illustration of some of the striking sorts see 4th cover page.

The following varieties of Oleanders have all been thoroughly tested by us; hence we have no hesitation in recommending them with the utmost confidence to all plant lovers.

Album Plenum. Very fine; small, double white flowers; very perfect and sweet-scented.

Album Maximum. Flowers semi-double, pure white; fragrant, very large and fine; very floriferous.

Atropupureum Duplex. One of the finest double Oleanders; color deep carmine streaked with pure white; very fine and effective.

Frederic Guibert. Truss large, single; light rose; throat light rose, streaked with crimson; very floriferous.

Laurifolium. Especially remarkable on account of its stiff, broad foliage like that of a laurel; flowers rosy pink, streaked white.

Madame Peyre. Very double, triple corolla; changeable from pure ivory to bright straw color; throat deeper yellow; very fine and desirable.

Madame Planchon. Flowers rosy lilac, semi-double; trusses very large and thickly set. Color fine, one of the best.

Madoni Grandiflorum. A grand variety, flowers large, white, semi-double, measuring $2\frac{1}{2}$ inches across; throat creamy white; a strong grower and very floriferous; trusses large; very fragrant.

Madame Peuch. Semi-double, flowers shaped like stars; soft rose of the brightest shade; a dainty variety.

Madame Sarah Bernhardt. This is a most magnificent single Oleander; one of the very best; flower truss very large and full; flowers of a delicate white inclining to pink, center streaked with light crimson. For illustration in natural colors see fourth cover page.

Monsieur Balaquier. A strong grower with immense trusses of single, soft rose flowers, two inches across, corolla streaked with white. A good sort.

Mrs. F. Roeding. This magnificent double Oleander, originated by us, is a chance seedling out of several thousand raised from the imported varieties; if properly pruned to one stem, the branches form a fine, compact, dense head, covered in summer with trusses of beautiful double pink flowers, (the color of the La France rose) delightfully fragrant, with fringed petals, which completely envelope the plant. More hardy than any other variety and is in every respect a very superior Oleander; worthy of a place in every garden. For illustration in natural colors see fourth cover page.

Nankin. One of the very best; bush rather dwarf in habit; flower truss large, single; upright; flowers light salmon yellow, changing to deep salmon yellow; throat deep yellow, streaked orange and crimson; especially fine in fall.

Nankin variegated. Leaves beautifully variegated and grained yellowish-white; very fine in the shade; flowers double, light pink.

Pierre Roudier. Very double; cerise pink, flushed and edged bright rose; an early floriferous bloomer. A superb variety.

Professor Durand. Semi-double, two corollas; color changing from creamy yellow to deep amber yellow; throat always deep amber yellow. A very free bloomer.

Purpleum. Single. Very fine, deep carmine crimson, shaded and streaked deep maroon.

Sister Agnes. Very large trusses; single; flowers nearly white, very fine and desirable. Very floriferous.

Splendens Giganteum. One of the most double and the largest of all oleanders, flowers measuring 3 inches across, light pink with occasional blotches of white; stamens entirely hidden in a whorl of petals which are delicately fringed. Very fragrant; a grand sort, blooming from early summer until late in the fall.

PHOTINIA.

Photinia serrulata. A handsome shrub attaining a height of 15 ft., with glossy, green leaves, assuming the most beautiful tints and shades in the winter; flowers small, white; in large terminal flat corymbs.

PITTOSPORUM.

Very bright foliated plants either growing compact with spreading branches or with an erect upright habit. They are all very ornamental and their attractive colors combined with the fact that some of them are very free flowering, causes them to be in demand for grouping, hedges and for lawn ornamentation.

Pittosporum crassifolium. Useful for ornamental planting on account of its pale glaucous foliage; will grow under the most unfavorable conditions. Is very valuable for wind-breaks along the coast, withstanding the severest gales.

Pittosporum eugenioides. A very handsome, upright-growing shrub; with silvery light green leaves, and black stems; a good hedge plant and very ornamental as an individual.

Pittosporum Tobira. "Japanese Pittosporum." A low growing shrub; with dark green leaves; flowers pure white, fragrant, in terminal umbels.

Pittosporum Tobira, variegatum. Same habit as above, but foliage is margined with white. Very largely used in the Eastern States as a house plant.

Pittosporum undulatum. A shrub or tree with lance-shaped, deep green, glossy leaves, flowers intensely fragrant at night.

POLYGALA.

Polygala Dalmaisia. A very free blooming plant with rosy pea-shaped, flowers completely enveloping the plant during the entire summer. The odd color and shape of the flowers and its free blooming, make it very attractive. It will stand considerable frost.

RAPHIOLEPIS.

Raphiolepis ovata. A beautiful, compact-growing shrub; a native of China; with dark, shining green leaves, and covered in summer with white flowers, followed by black berries. A fine shrub in warm, dry climates.

RHAMNUS.

Rhamnus Alaternus. A very hardy shrub, with oval-elliptic, smooth shining green leaves and small greenish flowers; disposed on short racemes.

Rhamnus Alaternus variegata. Same as the above except that the leaves are variegated silvery white.

TEUCRIUM.

Teucrium Canadense. Very useful for low grounds and moist borders; leaves lanceolate, sharp-serrate; flowers purple to cream-color, the corolla about $\frac{1}{2}$ inch long.

VERONICA.

All are very showy, free blooming plants and succeed in any good garden soil in a sunny situation. All varieties seem to do very well in California and they are particularly well fitted for grouping and massing for immediate effect.

Veronica Andersonii variegata. One of the best evergreen flowering shrubs; flowers violet blue; leaves glossy green, margined silvery white.

Veronica Imperialis. One of the best of the species; has large, dense spikes of amaranth red or crimson purple flowers.

VIBURNUM. Laurustinus.

Very handsome winter flowering shrubs; deserving to be universally planted.

Viburnum Tinus. "Laurustinus." Mediterranean region, 8-12 ft. A well-known winter flowering shrub of great beauty; producing an abundance of white flowers; well adapted for hedges.

Viburnum Tinus grandiflorus. Leaves and cymes of white flowers much larger than the preceding. A beautiful variety.

Viburnum Tinus variegatum. "Variegated Laurustinus." Leaves beautifully blotched with silvery white; very fine.

Viburnum Tinus rotundifolia. Far superior to the common variety; leaves rounded, deep glossy green; flowers much larger than the above; adapted to this valley; never sun-scalds.

CLIMBING AND TRAILING PLANTS**AKEBIA.**

Akebia lobata. Recently introduced from Japan, having three leaves on one stalk instead of five; flowers are purple and appear in the early spring followed in the fall by showy purple fruit.

Akebia quinata. One of the most graceful and hardiest of climbers, with deep green, small foliage, and numberless branches of violet brown flowers, having a most pleasant cinnamon odor. Fine for positions where dense shade is required.

AMPELOPSIS.

Ampelopsis quinquefolia. "Virginia Creeper." The common American Ivy, with large, luxuriant foliage, which in autumn assumes the most gorgeous and magnificent color before dropping off; one of the finest vines for covering walls or verandas.

Ampelopsis quinquefolia Engelmanni. A new variety with shorter joints than the preceding and a more rapid grower.

Ampelopsis Veitchii. "Boston Ivy." "Japan Ivy." China and Japan. This is the handsome creeper so generally used for covering brick, stone and wooden walls; when once established the vine grows very rapidly and clings to the walls with the greatest tenacity; the leaves are of a shining, glossy green, taking on beautiful, autumnal coloring; flowers small, followed by dense clusters of deep blue berries.

ARISTOLOCHIA. Birthwort.

Aristolochia Siph. "Dutchman's Pipe." A very rapid and dense climber, with large heart-shaped leaves, retaining their color from early spring until late in the fall; and curious pipe-shaped yellowish-brown flowers.

ASPARAGUS.

Asparagus comoriensis. Similar to *A. plumosus*, but more robust, darker green, softer foliage.

Asparagus Myriocladus. The plant is of almost erect growth producing fronds from two to four feet long, which when just unfolded are of a peculiar metallic bronze, changing to a golden green and finally to a rich emerald green. In every way a most attractive plant.

Asparagus plumosus. A beautiful climbing plant, with bright green, gracefully arched foliage, surpassing Maiden Hair Fern in grace, delicacy of texture, and richness of color.

Asparagus Sprengeri. Natal. A most desirable new species, especially useful to grow as a pot plant for decorative purposes, or for planting in suspended baskets; the fronds are frequently four feet long, are of a rich shade of green, and most useful for cutting, retaining their freshness after being cut for weeks; it will make an excellent house plant, as it withstands a dry atmosphere.

Asparagus tenuissimus. S. Africa. A beautiful climber; used largely for floral work. Can be grown outside a north wall in many parts of California.

BIGNONIA

Bignonia grandiflora. China and Japan. A strong climber with large, orange-scarlet flowers; very showy when in full bloom; a beautiful object when trained to a stake and made to assume the form of a standard shrub or tree.

Bignonia Lindleyi. A native of Argentina. A fine climber; flowers pale purple, with spots and stripes and a long cylindrical tube. Blooms when young.

Bignonia magnifica. A good climber, covered in summer with panicles of very large flowers, varying from a delicate mauve to rich, purplish-crimson, throat light primrose.

Bignonia venusta. A vigorous grower, producing large, deep, orange-colored flowers. A magnificent vine for covering old stumps and trunks of trees.

BOUGAINVILLEA

A very showy class of climbers and regarded as among the finest in cultivation. They are attracting widespread attention at the present time and although regarded as being adapted only for greenhouse culture, they are doing splendidly in many of the coast counties; will do well in the interior if afforded some protection in the winter. In many localities in Southern California they grow to perfection. They have peculiarly shaped flowers resembling the leaves in shape and produced at the ends of the branches in wonderful profusion.

Bougainvillea glabra Sanderiana. A beautiful evergreen climber, producing deep, rosy flowers in great abundance.

Bougainvillea spectabilis lateritia. Flowers larger than above of a brick-red color. A very rare and desirable climber.

CLEMATIS.

Clematises are vigorous growing climbers and are used in many places to cover walls, fences, balconies and small buildings. They do best in a light loamy soil, which must be well drained which should receive annual applications in winter of horse or cow manure. In warm dry climates the spraying of the foliage is very essential mornings and evenings. In moist, cool climates they are rampant growers and there are but few climbing plants which excel them in gracefulness or daintiness of appearance.

Clematis Duchess of Edinburg. The best of the double whites, deliciously scented.

Clematic Flammula. A slender but vigorous climber, prized for the fragrance of its small white flowers which literally cover the plant in midsummer, and its remarkable dark green leaves.

Clematis Jackmani. Large, intense, violet-purple flowers, striking for their richness.

Clematis Montana. An ideal variety for California. The flowers are produced in spring in great profusion. They are about the size of a dollar, white with a dash of pink and very sweet scented.

Clematis paniculata. A very hardy climber introduced from Japan, with fragrant small, white flowers, in clusters. Does well in a sunny situation. Will stand severe pruning in the winter.

CLIANTHUS.

Clanthus puniceus. "Parrot's Bill." New Zealand. A beautiful evergreen vine, with clusters of brilliant crimson flowers shaped like a parrot's bill. Blooms all winter in the coast counties.

COBOEA.

Coboea scandens. Mexico. A beautiful climber of rapid growth, bearing large purple bell-shaped flowers in great profusion during the fall months; very attractive and desirable for arbors and trellises.

FICUS. Climbing Fig

Ficus repens. (Climbing fig.) China and Japan. A very handsome little climber; with small, roundish, dark green leaves. Hardy in this State; a very attractive plant, attaching itself to walls, etc., like ivy.

HARDENBERGIA.

Hardenbergia monophylla. A very pretty climbing shrub somewhat resembling *Kennedya*, but of different habit and more numerous differently colored flowers. The flowers range from white through rose and purplish to pure violet.

HEDERA. Ivy

The Ivy is a very valuable plant for covering walls, trunks of trees, for screens, covering walls of cool green-houses; for hanging baskets. It makes a handsome evergreen carpet under trees and may be used to advantage for borders of shrubberies. Its flowers are inconspicuous but there are but few evergreen, climbing foliage plants that will thrive under as many uncongenial conditions as it will.

Hedera Helix. "English Ivy." A very fine variety, with large, thick, shining leathery leaves.

Hedera Helix Canariensis. "Giant Ivy" or "Large-leaved Ivy." Large, roundish, ovate, entire or slightly three lobed leaves; bright, yellowish green, sometimes 8 inches broad.

Hedera Helix variegata. This is one of the numerous forms of the "Common English Ivy" with bright green leaves margined and blotched with creamy white or yellow.

HEDYSARUM.

Hedysarum multijugum. A very showy and straggling climber and worthy of general cultivation; flowers violet or purplish magenta, with yellow blotches in racemes 8 to 18 in. long appearing all summer. Very fine for rockwork.

HOYA. Wax Plant

Hoya carnosa. "Wax Plant." A very pretty and decorative plant, either for greenhouse, conservatory or pot culture; leaves succulent and shining; flowers very fragrant, white with pink center produced in umbels, which spread like a horizontal star. The whole plant presents a waxy appearance, hence the name.

JASMINUM. JASMINE.

Jasminum gracillimum. Borneo. A new Jasmine, remarkable for its freedom of bloom and beautiful pure white flowers, borne in clusters; very fragrant.

Jasminum Grand Duke. Large, double white, imbricated, fragrant flowers.

Jasminum grandiflorum. "Catalonian Jasmine." Flowers pure white, star-shaped; of exquisite fragrance and produced in the greatest profusion all the year round. Plant is of a shrubby half-climbing habit, with very delicate foliage.

Jasminum nudiflorum. A rather dwarfish variety, covered with fragrant yellow flowers in the spring, before the foliage appears.

Jasminum nudiflorum Primulium. In this new variety introduced from China we have almost the counterpart of the preceding except that the flowers are fully double the size.

Jasminum officinale. Persia and India. Delicate white flowers.

Jasminum revolutum. "Italian Yellow Jasmine." Asia. A vigorous variety; can be grown as a vine or shrub; covered with rich, yellow flowers all summer.

LANTANA.

Lantana Sellowiana. "Weeping or Trailing Lantana." A pretty trailing variety suitable for vases, hanging baskets; flowers delicate rosy-lavender, and produced very freely.

LONICERA. Honeysuckle

Lonicera Alberti. "Upright Honeysuckle." Violet, bell-shaped flowers; leaves narrow, with rigid spiny branches. Attains a height of 3 ft.

Lonicera flava. "Yellow Coral Honeysuckle." A well known variety introduced from the Southern States; flowers pale yellow, corolla pale yellow, marked purplish outside. Very handsome in fall with abundant scarlet berries.

Lonicera Japonica aurea reticulata. Japan. Flowers yellow, very fragrant; leaves are beautifully netted and veined with clear yellow; evergreen.

Lonicera Japonica Halleana. "Hall's Japan Honeysuckle." A vigorous climber, with pure white flowers, changing to yellow; evergreen.

Lonicera semperflorens. "Red Coral Honeysuckle." A strong, rapid grower; blooms all summer; flowers scarlet.

Lonicera Standishii. "Chinese Honeysuckle." A well-known variety, with dark half evergreen foliage; veins of purplish hue beneath; remains green all winter; flowers white and pink; fragrant blossoms.

Lonicera Tatarica rosea. Pink flowers which contrast beautifully with the foliage.

MANDEVILLA. Chili Jasmine

Mandevilla suaveolens. "Chili Jasmine." S. America. Fine summer climber, with great clusters of large waxy, star-shaped blossoms, exquisitely fragrant. Should be planted in a somewhat protected situation as it will not stand very much frost.

MANETTIA.

Manettia bicolor. Brazil. A rapid and beautiful new climber; flowers an inch in length, of the most intense scarlet color, tipped with bright golden-yellow; blooms through the fall and winter months.

MUEHLENBECKIA.

Muehlenbeckia complexa. Apparently a most delicate and tender plant, but on the contrary it has demonstrated that it will do equally as well on the coast as it does in the interior. It is a very rapid and showy climber, invaluable for covering walls, wire netting fences and for rock-work. Its graceful, spray-like branches, its small thick waxy-white flowers followed by transparent, glistening, icicle-like fruits in the fall, make it one of the best of our evergreen climbers.

MAURANDIA. Lophospermum

Maurandia scandens. A very fine summer blooming plant; makes a fine decorative climber in the green-house and well suited for a trellis in a situation protected from the cold in the winter months. The pale violet purple flowers, spotted with white are both pretty and showy

MYRSIPHYLLUM. Smilax

Myrsiphyllum asparagoides. "Smilax." This is the well known vine so universally used for wreaths, bouquets, festoons and table decoration. It is of very easy culture, all it requires is a little shade, fair soil and a string or small wire to train on.

PASSIFLORA. Passion Vine

The Passion Vines are all strong growing evergreen climbers with large, yellowish green leaves and brilliantly colored flowers, some varieties maturing their fruits when grown out of doors and adding to the brilliancy of the plant. They are of exceedingly rapid growth and are well adapted for growing on old tree-stumps, covering walls or buildings. They always excite admiration when in full bloom.

Passiflora coerulea. Flowers faintly scented, purple at the bottom, white in the middle, blue at the ends; fruit yellowish. One of the hardiest and grows well in the interior and the coast; does not seem to be effected with either heat or cold.

Passiflora coerulea Constance Elliott. Pure white with a slight coloring at the base of the petals. Very hardy.

Passiflora edulis. Brazil. A very rapid-growing plant, with beautiful, glossy green foliage; flowers white, with blue or violet base; fruit edible, as large as a goose egg and of a purplish color.

Passiflora ignea. One of the best, flowers intense crimson, 4 inches in diameter and hanging gracefully from the pendulous branches.

Passiflora violacea. Flowers 3 inches in expanse; petals a pale lilac, blue in the middle and white at the base.

PERIPLOCA.

Periploca Graeca. "Silk Vine." An exceedingly rapid-growing deciduous vine, reaching up to a great height, with shining, long, narrow leaves and umbels of purplish-brown blooms. A great climber in the warm, dry climates.

PHASEOLUS. Snail Vine

Phaseolus Caracalla. "Snail Vine." "Corkscrew Flower." A very unique climber requiring some protection in the winter; with fragrant and peculiarly twisted flowers varying from purple to yellow and having a twisted shape like a snail, hence the name.

PLUMBAGO. Leadwort.

Plumbago Capensis. Can be trained as a bush or climber; flowers light sky-blue, produced through the entire summer; stands drought and water and the brightest sunshine.

Plumbago Capensis alba. Pure white, form of the above.

SOLANUM

Solanum jasminoides. "Potato Vine." S. America. A very rapid-growing vine, with dark green leaves; flowers white with yellow centers.

Solanum Wendlandii. Costa Rica. A magnificent, rapid-growing vine, with large dark glossy green leaves; flowers large, lilac-blue, borne in cymes six inches and more across; flowers profusely, and is very showy. Requires some protection in the winter in exposed situations. Does remarkably well in southern California and is one of the attractions there.

SOLLYA

Sollya heterophylla. "Australian Bluebell Creeper." A great favorite and much cultivated on account of the brilliant blue of its tubular flowers. Especially valuable for covering banks, rockwork and low fences. A fine hardy evergreen climber.

SWAINSONIA.

Swainsona galegifolia albiflora. Australia. A very graceful climber and desirable for a trellis; flowers pure white, resembling Sweet Peas in form; produced in pure white sprays in the greatest profusion.

Swainsonia galegifolia rosea. Same habit as the former, but has pink flowers.

TECOMA. Trumpet Vine

All beautiful and very showy evergreen climbers and with a little care and an occasional application of manure, will more than repay in their appearance the care bestowed on them.

Tecoma Jasminoides. "Australian Bower Plant." A beautiful climber, with bright glossy green leaves; flowers white, shaded at the throat to a deep purple.

Tecoma Mackenii. One of the best of this beautiful group of climbers, with dark green, glossy leaves and funnel formed flowers, light pink, striped red.

Tecoma radicans. "Trumpet Creeper." United States. Similar to *Bignonia grandiflora*, but a stronger and more rapid climber; flowers smaller; desirable for covering the trunks of trees or unsightly buildings.

Tecoma Tweediana argentea. A fine plant for covering walls, which it does about as well as the "Boston Ivy;" flowers yellow.

VINCA. Periwinkle

Vinca. "Periwinkle." Showy, creeping plant; will thrive in the sun or in spots too shaded for grass to grow, and admirably adapted for borders or rock work.

Vinca major. "Large Periwinkle." A beautiful trailing plant, with deep glossy green leaves and trumpet-shaped pale blue flowers.

Vinca major variegata. Leaves glossy green, broadly margined with creamy white and blue flowers. A beautiful vase plant and equally as hardy as *vinca major*.

VITIS

Vitis heterophylla humulifolia. "Turquoise-berried Vine." A very ornamental vine with large ornamental leaves and producing loose clusters of blue colored, globular berries in the fall, which are most attractive.

WISTARIA

Wistaria. One of the most graceful of climbers; a quick, rapid, vigorous grower; it is surpassed by no plant for covering walls or piazzas, and this, combined with its rich, pendulous panicles of pea-shaped flowers appearing in the spring in great profusion, renders this one of the most desirable of climbing plants.

Wistaria Chinensis. "Chinese Wistaria." A beautiful climber of rapid growth; producing long, pendulous clusters of pale blue flowers.

Wistaria Chinensis albiflora. A very choice variety; a vigorous grower, with long racemes of pure white flowers.

Wistaria Chinensis flore-pleno. "Double Purple." A rare variety, with long clusters of double, pale blue flowers.

Wistaria Chinensis rosea. A fine variety with clusters of pink flowers.

Wistaria magnifica. "American Wistaria." Flowers in dense, drooping racemes, of pale lilac, with a yellow spot; very vigorous.

Wistaria multijuga alba. "Loose-clustered Wistaria." Bears long, loose racemes of pure white flowers. Flowers smaller but the racemes are from 2 to 3 feet long. Very fragrant.

THE HEDGE PLANTS

We are paying considerable attention to this class of plants, and beg to offer several novelties.

BUXUS. Box Tree

Buxus sempervirens. "Common Box Tree." Attains a height of six to seven feet and makes a fine dense hedge. Stands pruning well.

Buxus sempervirens suffruticosa. "Dwarf Box." Makes a fine, low hedge for small gardens.

CARPINUS

Carpinus betulus. "European Hornbeam." Leaves purplish when young, green later and turning yellow in the fall. In general appearance very similar to the Beech, but it adapts itself much better to our climatic conditions. Makes a very rapid and a most ornamental hedge.

CUPRESSUS. Cypress

Cupressus macrocarpa. "Monterey Cypress." The most extensively planted of hedges.

CRATAEGUS. Burning Bush

Crataegus Pyracantha. "Burning Bush." An evergreen, full of thorns; a hedgerow of this variety is impenetrable and presents a magnificent appearance, both in flower and when the berries are ripe; the latter are scarlet and produced in great numbers.

EUONYMUS

Euonymus Japonicus. Bright green leaves; can be trimmed in any way desired. A fine hedge plant for large gardens. An evergreen which always retains its fresh, deep green glossy leaves.

Euonymus Japonicus aurea. "Golden-leaved." Has beautiful mottled golden yellow foliage. A very ornamental hedge plant.

Euonymus Japonicus microphyllus. (*E. Pulchellus*). A dwarf growing variety; with small, deep, dark green leaves; very desirable for low hedges.

LIGUSTRUM. Privet.

Ligustrum Japonicum. "Japanese Privet." A grand hedge plant for enclosing large gardens or parks. Leaves are thick, leathery, deep green. Stands trimming well.

Ligustrum ovalifolium. "California Privet." One of the most popular hedge plants in the eastern states. A partial evergreen. Leaves narrow and not over one inch long. One of the best hedge plants in existence and being perfectly hardy it is worthy of being used extensively.

PUNICA. Pomegranate

Punica Granatum. All the Pomegranates make fine hedge plants and are easily retained in good form, by occasional cutting during the summer months. We particularly recommend the flowering types.

ROSA. Rose

Nothing is more magnificent than a hedge of ever-blooming Roses; very few varieties, however, are suitable, as a compact growth and continuous flowering are necessary. After years of experience, we recommend the following varieties: Agrippina, American Beauty, Mme. Chas. Wood, Antoine Mouton, Gruss An Teplitz and La France.

THUYA. Arborvitae

Thuya occidentalis. "American Arborvitae." In warm dry climates this plant makes a better hedge than the Monterey Cypress. It never burns and requires but very little trimming to keep it in good shape.

VIBURNUM

Viburnum Tinus. "Laurustinus." A very pretty hedge plant; always in flower.

THE PALMS

It was Linnaeus, the great Swedish botanist, who always spoke of the palms as the "Kings and Princess of the Vegetable Kingdom," an appellation fully warranted by their erect carriage and noble appearance. They certainly are the most highly ornamental of all plant life, and it is upon them chiefly that we depend for that distinctive tropical appearance of our gardens which is the admiration of all tourists from less favored climes.

The soil and climate of nearly the whole of California is peculiarly adapted to their successful culture, and after being once established, they require but little care to keep them in first-class condition.

There are species so hardy that they endure, without injury, the frosts and snows of the southern part of both England and Ireland.

Here, where they grow so luxuriantly, we should make them the most prominent feature of our landscapes, and no California garden, however small, is complete without one or more members of this strikingly handsome family; plants whose beauty constantly increases with age.

We are making a specialty of the growing of these beautiful, graceful plants and our collection is very complete.

All marked with an asterisk are for indoor and conservatory decoration, or for frostless locations.

ARECA

***Areca lutescens.** Madagascar, 30 ft. One of the most graceful and beautiful palms in cultivation; the foliage is of a bright glossy green, with rich, golden stems; adapted only to greenhouse or house culture.

Areca sapida. Of more compact habit than the preceding; the foliage is a dull green and the leaf stems brownish. Will withstand considerable frost.

CHAMAEROPS

Chamaerops excelsa. "Windmill Palm." China, Japan, India, 30 ft. Leaves fan-shaped, deeply cut. This is the hardest palm we have, and, although it is not such a rapid grower as some, it is worthy of extensive cultivation, as it is very ornamental, a symmetrical grower, and has very handsome palmate leaves.

Chamaerops Fortunei. Similar in appearance to the preceding, but having larger and broader leaves, cut half way or more down; segments pendulous towards the tips.

Chamaerops Nepalensis. Resembles *Excelsa* in habit, but more dwarf in growth; the leaves are smaller, stiff, more rounded; and the leaf-stalk shorter and stouter; the leaves are of a deep, dark green color; a rare and handsome, hardy palm, worthy of a place in every garden.

Chamaerops humilis. The Mediterranean region. A dwarf-growing Fan Palm, with divided, fan-shaped leaves; stems thorny; perfectly hardy, and of easy culture; a fine lawn plant, especially for small places.

Chamaerops humilis artosa. Has very large leaves, petiolar stem longer and with long brown thorns along the edge. Leaves spotted silvery gray beneath.

Chamaerops humilis Canariensis. Very dwarf in habit; leaves bright green; one of the best varieties for tubs and pots.

Chamaerops humilis tomentosa. A variety of *Humilis* with glaucous-colored foliage and leaves not spreading in habit.



Chamaerops excelsa. "Wind Mill Palm."
See page 111.

COCOS

Cocos australis. "Pindo Palm." Paraguay, 8 ft. A slow-growing decidedly ornamental, very graceful and very hardy palm; leaves pinnate; glaucous green; stem very much recurved; suitable for small gardens or for grouping among other palms.

CORYPHA

**Corypha australis*. Australia. One of the handsomest of the fan palms; the fan-like leaves are dark green, supported upon brown petioles, which are armed at their edges with stout spines; well suited for the decoration of apartments; hardy only in localities not subject to severe frosts.

CYCAS

**Cycas circinalis*. Stem stout, cylindrical, increasing in size very slowly; the leaves

are much larger than the *C. revoluta*, and deeply pinnated; the most beautiful of the Cycad family; not adapted to outdoor culture.

Cycas revoluta. The so-called Sago Palm. This noble decorative palm with its dark brown stem and crowned with its tuft of beautiful pinnated, dark green leaves, which uncurl from the top like ostrich feathers, is unquestionably a magnificent plant. It will grow for months in a room near a window if not exposed to the direct rays of the sun, and the leaves will retain their bright, rich, glossy green appearance. It will grow in the open air, but should have a canopy of burlap over it at least one year after planting out, until acclimated.

ERYTHEA

Erythea armata. "Blue Palm." Lower California, 40 ft. One of the most exquisite fan palms and very rare. Foliage glaucous blue; very hardy; a pretty palm, especially suited to small gardens.

Erythea edulis. "Guadalupe Island Palm." Resembles the California Fan Palm somewhat, but the stem is more slender and graceful; the leaves are without filaments and of a deeper green, so that it is readily distinguished from that variety; perfectly hardy.

JUBEA.

Jubea spectabilis. "Wine or Honey Palm." A native of Chili. A palm honey, which is very much in demand, is prepared from the sap in its native home. It is one of the hardiest of palms and looks something like a Phoenix, but it is more spreading and of a dwarfer habit. It is readily distinguished from the pinnæ which revert to the petiolar stalk and which are also irregularly arranged, giving the plant a feathery appearance. Truly a magnificent palm.

KENTIA.

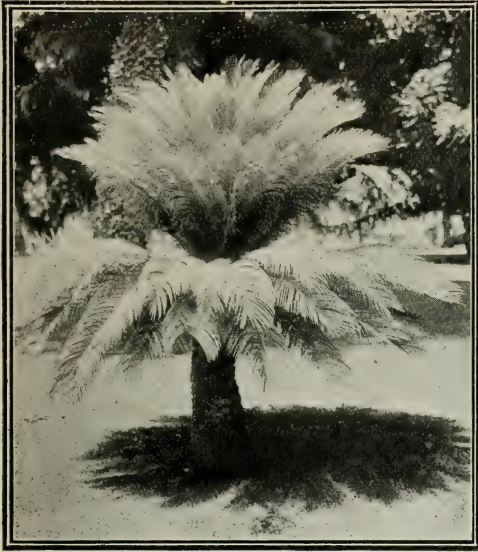
**Kentia Belmoreana*. "Curly Palm." Lord Howe's Island. One of the most valuable of house palms; elegant, pinnate leaves; beautiful, even when small.

**Kentia Canterburyana*. Lord Howe's Island. A handsome species, with pinnate leaves and very robust habit; called in its native country, the "Umbrella Palm;" a fine conservatory or house plant.

**Kentia Forsteriana*. "Thatch-Leaf Palm." Lord Howe's Island. A robust-growing variety, only for house culture; very graceful and attractive.

LIVISTONIA.

**Livistonia Chinensis*. (*Latania Borbonica*.) China. The most popular palm for decorative work, for apartments or conservatories; leaves large, fan-shaped, of a rich, dark green color; hardy in sheltered spots only.



Cycas Revoluta. The Sago Palm.

MACROZAMIA.

**Macrozamia spiralis*. A very handsome palm with long pinnated shining, green leaves, except at the base where they are ivory white. Leaves and trunk somewhat similar to *Cycas*.

PHOENIX.

Phoenix Canariensis. "Canary Island Palm." The most graceful and the handsomest of our hardy palms; leaves pinnate and of a deep, dark green color; one of the most effective palms on a lawn, and worthy of the attention of all admirers of the Palm family; fruit not edible.

Phoenix dactylifera. Arabia and N. Africa, 100 ft. Produces the famous dates of commerce; the date palm is dioecious, that is, the male and female flowers appear on different trees; fruit is secured by suspending male blossoms in the tree developing female flowers, when the same are in the receptive stage; luxuriates in the strongest alkaline soils, where other trees fail entirely.

Phoenix reclinata. "Dwarf Date Palm." S. Africa, 12-20 ft. Very graceful, drooping leaves; very handsome for avenue or lawn use; not as hardy as some of the other sorts.

Phoenix rupicola. Himilaya, 15-20 ft. Has wide-spreading, arching leaves, and one of the finest of the genus for pot culture.

Phoenix sylvestris. "Wild Date Palm." India, 25-40 ft. Very hardy and useful, the leaves being used for mats, ropes and baskets, and the sap furnishing the palm sugar in its native country; leaves long, arched and of a glaucous green color; closely allied to the date of commerce.

RHAPIS.

**Rhapis flabelliformis*. "Ground Rattan Cane." China and Japan. A very pretty, cane-like palm, which suckers from the roots like Bamboo, with many-fingered dark green leaves, borne at the end of the reed-like stems.

**Rhapis humilis*. Low growing, very similar to the preceding, except that the stems are thicker and shorter and the palmated leaves are broader.

SABAL.

Sabal Adansoni. "Dwarf Palmetto." Southern states, 3-6 ft. Leaves a dark, rich green, with smooth edged stems; flower-spike rises above the leaves to a height of six or seven feet; this palm resists severe cold unharmed.



Washingtonia robusta, *Washingtonia filifera*. Palms of same age, showing remarkable difference in habit and growth.

Sabal Blackburnianum. West Indies, 30-40 ft. A very distinct, slow-growing variety; leaves long, bluish green.

Sabal Palmetto. "Cabbage Palmetto." 20-80 ft. A native of the southern states and famous for its historical association and for the imperishable nature of its wood when under water; leaves long and deeply divided; the bases of the leaf stalks re-



Erythea edulis. The Guadalupe Island Palm. See page 112.

main on the trunk until the tree advances in age, when they fall off, leaving a rough trunk, eight to ten inches in diameter; this palm is entirely hardy, and on account of its unique appearance is very desirable.

SEAFORTHIA.

Seaforthia elegans. (Archontophoenix Cunninghamii.) Queensland, N. S. W. One of the most beautiful of the Palm family, and one of the best in cultivation for the conservatory or greenhouse; the pinnate leaves are two to ten feet in length, dark green and perfectly smooth. Perfectly hardy in many places in Southern California.

WASHINGTONIA.

Washingtonia filifera. "California Weeping Palm." It is perhaps the most characteristic palm of California and it originates from San Bernardino county. Trunk attains a diameter of 4 feet and is covered with shields of dead leaves; leaves fan shaped, with numerous divisions and whitish filaments. Petioles stout, smooth, five to six feet long and margined with stout hooked spines. Attains a height of 60 to 80 ft.

Washingtonia robusta. This is a very distinct type from the preceding. Although the leaves have the same weeping tendency, they are much greener and the white filaments are not so numerous. The



Phoenix Canariensis. The Canary Island Palm. See page 113.

petioles are much more heavily armed. It is an exceedingly rapid grower, outstripping the *W. filifera* two to one, with a trunk much less than one-half the thickness. Although it has an immense crown of leaves, it withstands the strongest winds without injury. It flowers very early in the summer and its seeds are fully twice as large as the other two varieties. Attains a height of 100 feet and over.

Washingtonia Sonorae. One of the hardi-

est and most beautiful of Palms; in habit of growth resembling our well-known California Fan Palm, but more symmetrical and of a dwarfer habit; leaves fan-shaped, medium size; few or no filaments; retaining its dark green color during the winter months; leaf stems short, thorny, of upright, compact growth with dark leaf-sheaths and very dark margins and spines. It is very much hardier than the California Fan Palm and will no doubt be extensively planted, when its value as a decorative plant is fully appreciated.

AGAVES, DRACAENAS, YUCCAS, BAMBOOS

AGAVE.

Agave Americana. "Common Century Plant." Tropical America. The well-known, so-called Century Plant, with glaucous green leaves.

Agave Americana variegata. A variegated form of the preceding with leaves edged with a broad margin of rich yellow.

DRACAENA.

Are very fine avenue, street and single specimen trees in the coast counties where the climate conditions are favorable to their perfect development. Do not thrive so well in the interior. Excellent for house decoration.

Dracaena australis. A very fine species, with a stout branched stem from 10 to 30 ft. high and with flag-like leaves, two to three feet long.

Dracaena indivisa. A much more rapid grower than the preceding, with longer narrow leaves. Fine for hall or porch decoration.

PANDANUS. Screw Pine.

Pandanus utilis. "Screw Pine." Madagascar, 60 ft. The well-known "Screw Pine," so called from the screw-like arrangement of the leaves around the stalk; leaves green, with small red spines along the edge; a very handsome house and conservatory plant.

YUCCA.

These are among our most effective plants; palm-like, with spikes of white flowers; they require, after being establishment, no care, and will flower year after year. A group of these plants will always remain very attractive; the foliage is in some varieties bluish, in others, green and white.

Yucca aloifolia quadricolor. Very fine; beautifully variegated and marked with narrow stripes of yellow and green.

Yucca aloifolia variegata. A very rapid grower with broad leaves and broad bands of yellow.

Yucca angustifolia. Rocky Mountain region. A low-growing species with long, narrow, variegated green leaves and fine spikes of immense, creamy white flowers.

Yucca baccata. "Spanish Bayonet." Low, compact grower, leaves very rigid, yellowish green, with thick marginal threads. Flower inflorescence 5 to 6 feet long on an elongated peduncle.

Yucca filamentosa. "Adam's Needle." Southeastern U. S. A variety of compact growth, with dark green leaves and majestic spikes of yellowish-white flowers.



The Giant Bamboo.

Yucca Whipplei. "Spanish Bayonet." California. Very fine; sends up a flower-like stem eight feet high.

DASYLIRION.

Highly ornamental plants suitable for terraces, vases and formal gardens. Trunk short or missing altogether and leaves inserted in such a way as to form a dome or globe-shaped head. The tall peduncle, with its inflorescence of whitish green flowers is also very striking. Will grow in the driest of locations.

Dasyllirion glaucophyllum. (D. glaucum.) A grand plant, with compact head of leaves, fringed at the edges with small teeth.

Dasyllirion graminifolium. (*D. longifolium*.)

A very handsome plant, with long, narrow leaves proceeding from a common center and drooping to the ground; very desirable for a lawn; very hardy; sends out an immense spike covered with small, delicate, yellowish-white flowers.

BAMBUSA. Bamboo.

Not only very useful but exceedingly ornamental plants. In Japan they are regarded as a necessary part of the existence of the inhabitants and immense forests of them are to be found throughout the Empire. They seem to do well in any reasonably good soil and they should be planted by every farmer. All the leading varieties of Japan seem to find the conditions in California very favorable for their rapid growth. They are very decorative house plants, are fine as single specimens on the lawn and for grouping; with their airy foliage, graceful bending branches and their very rich coloring of green, there are but few plants which will compare with them for producing immediate striking effects.

Bambusa aurea striata. China. A decorative garden plant, slender and graceful; leaves variegated; makes a splendid pot plant.

Phyllostachys bambusoides. "Arrow Bamboo." Japan, 12 ft. Arrows were formerly made from the reed-like shoots of this plant; nodes very prominent; stalks very smooth and shiny. It is also extensively used for supporting pot plants.

Phyllostachys Castillonis. 6 to 20 ft. Stems one inch or more thick, much zigzagged, bright yellow, with double groove of green leaves, striped yellowish white. A fine decorative plant for home culture or for outdoors.

Poyllostachys Henonis. "Bambusa Henonis." Japan, 15 ft. Very ornamental; when fully grown stems are two inches in diameter; grows thick and bushy and forms an excellent shelter against wind.

Phyllostachys mitis. Japan, 30 ft. The tallest bamboo; stem often six inches in diameter; used in Japan for water pipe, furniture, etc.; young sprouts are eaten as a vegetable.

Phyllostachys nigra. "Black Bamboo." When fully grown, the shoots of this variety are black; attains a height of twenty-five to thirty feet; one of the most ornamental of this family, the black stalks and branches forming a marked contrast with the bright green foliage.

Pyollostachys Quiloi. "Giant Bamboo." Japan, 18 ft. Stems four to five inches in diameter at the base; leaves the largest in the family; of easy growth and very ornamental.

Phyllostachys vulgaris. Of very rapid growth, attaining a height of 40 feet with stems 2 to 3 inches in diameter. A valuable variety of very easy culture.

BEDDING AND BORDER PLANTS

ABUTILON. Flowering Maple

Abutilon. We have a very fine assortment of these beautiful shrubs, with large, maple-like leaves and golden and crimson flowers. A group of abutilons in flower is one of the finest decorations possible.

ACHANIA. Turks Cap.

Achania Malvaviscus. A vigorous growing plant, resembling the Abutilons in habit and growth and valuable for pot culture or bedding. Flowers are brilliant crimson and appear during the entire summer.

ACALYPHA.

Acalypha bicolor compacta. A fine plant for green house decoration, but its most important feature is its fine bedding qualities, doing well in the sunniest places. The leaves are bright green with irregular bands and yellow blotches.

ALTERNANTHERA.

Alternanthera. Gorgeous foliage plants, used for carpet and ribbon gardening.

ANTHERICUM.

Anthericum vitatum variegatum. S. Africa. Beautiful plants with re-curved graceful foliage. Leaves are dark green, beautifully marked with broad stripes of creamy white.

ACHYRANTHES. Iresene.

Achyranthes. Indispensable for bedding purposes, either in massing or ribbon work, their brilliant tinted leaves forming a marked contrast with all other plants.

AGERATUM.

Ageratum conyzoides. Tropical America. A very useful plant for ribbon work, producing blue flowers in great profusion.

ALTHEA ROSEA. Hollyhock.

Althea rosea. "Hollyhock." We offer a choice collection of these attractive plants; flowers, single or double, and of various hues.

ARUNDO DONAX. Giant Reed.

Arundo Donax variegata. Sometimes called false bamboo. A tall graceful reed with stems from 10 to 20 ft. high, which grow

very rapidly, clothed with broad, pointed leaves marked with longitudinal stripes of creamy white and green and covered with tall showy reddish plumes in the fall months. Excellent for giving immediate effects in aquatic scenes and to conceal unsightly objects.

ASPIDISTRA.

Aspidistra lurida. China. A very pretty foliaged plant for house or green-house decoration, with dark green, long leaves; produce odd-looking purplish flowers above the ground. Thrives under the most unfavorable conditions, retaining its fresh appearance even where it does not receive sufficient air, light or water.

Aspidistra lurida variegata. Similar to the preceding, except that the leaves are broadly margined and striped with white.

BEGONIA.

Begonia. We have a fine collection of these showy brilliantly foliaged plants and many-colored, delicately shaded flowers.

BELLIS. Daisy.

Bellis perennis. "English Daisy." Europe. Very pretty double flowering plants; suitable for edging.

CANNA.

Canna. Very attractive plants, with large green leaves, often shaded with red and crimson; flowers scarlet and yellow. Our collection comprises all the newest and best varieties.

CAREX.

Carex Japonica. An extremely useful house plant, introduced from Japan; the blades, with a green center and white edges make it very effective for vases and hanging baskets.

CENTAUREA. Dusty Miller.

Centaurea Cineraria. "Dusty Miller." A valuable bedding plant with downy very white, bipinnatifid leaves and producing purple flowers. Grows very rapidly and makes an immediate effect.

CHRYSANTHEMUM.

Chrysanthemum. Very careful attention has been given to the culture of these beautiful winter-blooming plants, which now embrace nearly every shade of color, and the varieties we offer are the very best of the several distinct classes. They will thrive in almost any soil, and as they are the only plants that bloom at that season of the year, no garden is perfect without them.

CHRYSANTHEMUM. Marguerite.

Paris-Daisy.

Chrysanthemum frutescens. "Marguerite." Canary Islands. Fine, ever-blooming plants; in two varieties, white and yellow.

CLERODENDRON.

Clerodendron. Ornamental plants, with large, heart-shaped leaves, producing large panicles of red, scarlet and white flowers.

COLEUS.

Coleus. We have a fine collection of these many-tinted and shaded foliage plants.

CUPHEA.

Cuphea Llavea. "Red, White and Blue Flower." Guatamala. A remarkable flowering plant, combining three distinct colors, scarlet, purple and white; belongs to the same family as the "Lady's Cigar Plant," but is vastly superior to it. The plant is bushy, and presents an elegant appearance; always in bloom.

CYPERUS. Umbrella Plant.

Cyperus alternifolius. "Umbrella Plant." Madagascar. A very desirable house plant; bearing upon erect jointless stems a crown of long, narrow leaves, resembling in shape a small umbrella; easy culture; requires an abundance of water.

Cyperus lucidus. Leaves numerous, large and broad, spikelets of flowers, on long graceful linear stems, all diverging from a common point on one or two foot stems.

Cyperus Papyrus. "Egyptian Paper Plant." With erect tall stems 4 to 8 ft. high and a tuft of narrow, drooping leaves diverging from a common center. A valuable plant for aquariums and damp soils.

DIANTHUS. Carnation

Dianthus caryophyllus. "Carnation." Our assortment of carnations cannot be surpassed. We have all the leading varieties, but do not give any names, as there are new varieties constantly being introduced, which we are adding to our collection, which consists of twelve sorts; all very fine.

ECHEVERIA. Hen and Chickens.

Echeveria. "Hen and Chickens." A very pretty class of succulent plants, suitable for rockeries, edging or carpet-bedding.

EULALIA.

Eulalia Japonica variegatus. "Japanese Striped Grass." A very robust, perennial grass from Japan, with graceful leaves, marked with alternate stripes of white and green. The flower stalks appear in September, and the plant is then four to six feet high.

Eulalia Japonica zebrina. "Japanese Banded Grass." In form and habit this resembles the above, but differs essentially in the manner of variegation, the markings running crosswise.

FERN.

Fern. We offer a very nice collection of these graceful, delicate foliaged plants. To grow them successfully, they should be grown in a shaded place.

FUCHSIA.

Fuchsia. Tropical America. A very pretty and charming class of plants, requiring good, rich soil and partial shade in order to succeed well; desirable for pot culture; when in full bloom present a very pretty appearance. Our collection embraces all the latest and best varieties.

GERANIUM.

Geranium. We have a fine assortment of these showy bedding plants, growing only the latest and best of the many new varieties recently introduced.

GYNERIUM. Pampas Grass.

Gynerium argenteum. "Pampas Grass." S. America. This splendid grass, with its long, narrow foliage and white plumes, is very attractive; the most desirable of all grasses for a lawn; the plumes, when properly handled and dried, are used for decorative purposes; there is a good market for them every season.

Gynerium argenteum roseum. General habit same as the preceding, but the plumes are distinctly flesh pink.

Gynerium argenteum variegatum. Foliage beautifully edged with silver.

HELIOTROPIUM. Heliotrope.

Heliotropium. Of these interesting plants we grow four varieties; they deserve attention on account of their rich, fragrant flowers, and dark green leaves; with plenty of water they thrive well in this climate.

HIBISCUS.

Hibiscus rosa-Sinensis. "Chinese Hibiscus." Very showy plants, fine for house and green-house decorations. The foliage is bright glossy green and they produce flowers in the most gorgeous colors. Can only be grown outside in localities almost free from frost.

LAVENDULA. Lavender.

Lavendula vera. This is the true sweet Lavender with delightfully fragrant blue flowers in July and August.

LIPPIA.

Lippia repens. A good substitute for bluegrass, as it will grow even in the driest climates with less than half the amount of water. It makes a remarkably dense mat and bears numerous tiny flowers an inch or so above the ground.

LANTANA.

Lantana. Our collection consists of a selection of the best of the recently introduced varieties. They are very desirable for their free blooming qualities and their ready adaptation to any ordinary garden soil. The newer varieties grow compactly and are of spreading, bushy habit.

LOBELIA.

Lobelia Erinus. Few plants are more effective in their season of bloom extending from July until October, than the Lobelias. They thrive in any ordinary garden soil and are fine for hanging baskets. Their flowers are of a deep blue color.

MENTHA. Mint.

Mentha rotundifolia variegata. A very pretty border plant with its round variegated green and yellow leaves. Gives off a peculiarly pleasant mint-like odor when its leaves are bruised.

MUSA. Banana.

Musa Ensete. "Abyssinian Banana." This magnificent foliage plant, if given plenty of water, attains a height of 12 feet in a single season. This variety produces no suckers, and requires several years to come into flower and seed, then it dies.

PAEONIA. Herbaceous Peony.

Paeonia. They have always held an important place among hardy plants. They will do well in any ordinary soil and seemingly do as well in the shade as in the sunniest of positions. In the richness of coloring and profusion of flowers they present a gorgeous effect equalled by no other flower. Our collection comprises some of the very best types.

PELARGONIUM.

Pelargonium. A class of handsome flowering plants commonly known as "Lady Washington Geraniums." They produce beautiful trusses of rich flowers in the spring and early summer months. Our collection consists of the best of the latest introductions.

PETASITES.

Petasites Japonica gigantea. An oddity which sends its petioles up to a height of 6 ft. with a diameter of $1\frac{1}{2}$ to 2 inches. The large round leaves expand at the top of the petioles in an umbrella shape, giving the plant a very ornamental effect.

PETUNIA.

Petunia. We have a fine assortment of both the new double and single varieties.

PHLOX.

Phlox. Among the hardy perennial plants no class is of more importance than the Phloxes, succeeding in almost any position and flowering from the early summer until late in the fall. They contain a range of colors found in but few plants.

PHORMIUM. New Zealand Flax.

Phormium tenax. "New Zealand Flax." Large, erect; dark green leaves, with narrow, reddish-brown margin.

Phormium tenax variegata. This variety has shorter leaves, and has broad, creamy-white stripes extending the entire length of each leaf. A grand lawn plant and also very desirable for grouping or as single specimens.

PILEA. Artillery Plant.

Pilea microphylla. A very pretty species of greenhouse plant with compact fern-like sprays and for the interesting phenomenon of forcibly discharging the pollen, whence the name Artillery Plant.

POGOSTEMON. Patchouli Plant.

Pogostemon Heyneanus. "Patchouli Plant." This species affords the celebrated Patchouli perfume of the Hindoos; the odor is very peculiar and is one of the commonest perfumes found in the bazaars.

POINSETTIA.

Poinsettia pulcherrima. Introduced from Mexico. This is the well known plant so generally grown in Southern California. Its long stems, large leaves and great scarlet bracts surrounding the flowers, produced in the winter, cause it to be valued very highly for holiday decorations.

PRIMULA. Primroses.

Primula. The Primulas are very free flowering plants; with their dark green foliage and stems of large flowers, varying in color from pure white to rich crimson, they make fine decorative plants.

ROMNEYA. California Tree Poppy

Romneya Coulteri. "California Tree Poppy." A native of California, it is deserving of extensive cultivation. It is a perennial and its large white blossoms, the largest of the poppy family, appear all summer. It is a very effective plant, the whiteness of its petals combining with the golden yellow stamens render it one of the most beautiful of our summer flowering plants.

SALVIA.

Salvia. Very handsome and rapid growing plants, flowering all summer.

SAXIFRAGA.

Saxifraga sarmentosa. A handsome plant of low habit; leaves nearly round, and striped freely with silver bands; blooms white, borne in spikes 12 inches long. Fine for hanging baskets and vases.

STRELITZIA. Bird of Paradise.

Strelitzia Reginae. "Bird of Paradise." A valuable plant for house decoration; large orange and purple flowers appear in great profusion in April and May; leaves about one foot long, stiff. Very tropical in appearance.

THYMUS.

Thymus. We grow two varieties, the common Thyme with its plain green foliage and the variegated variety. They are very desirable plants for edging. The leaves and shoots are used for seasoning.

TRADESCANTIA. Wandering Jew.

Tradescantia. "Wandering Jew." Very fine decorative plants of which we grow three varieties. They are fine for hanging baskets, for jardinières and vases. They will cover the ground quickly if grown in partial shade.

TRITOMA. Red Hot Poker.

Tritoma Uvaria. "Red Hot Poker." S. Africa. A fine, late-blooming plant, with bright, orange-scarlet flowers; borne on long straight stems.

VERBENA.

Verbena. We have succeeded in obtaining the latest introduced varieties of these plants, the flowers of which are far superior to the old sorts.

VIOLA ODORATA. Violet.

Viola. California Violet. A single blue violet; a profuse bloomer and very fragrant; flowers the size of a half-dollar; borne on long stems.

Viola. Marie Louise. Deep blue violet, with white center; very fragrant and free flowering.

Viola. Princess of Wales. Of French origin and recently introduced; flowers of the largest size, of a true violet blue, and borne on long stems; very fragrant; foliage dark and of strong growth.

Viola. Swanley White. Large, double white flowers.

VIOLA TRICOLOR. Pansy.

Viola tricolor. "Pansy." Extra choice varieties, from the best imported seed; flowers flamed, striped and blotched.

No firm west of the Rocky mountains has given so much attention to the grape and the fig as we have; hence, we are prone to believe that the Fancher Creek Nurseries are in a position to offer, not only superior nursery stock in these two great specialties, but also better service. A trial order will verify this statement.

BULBS AND TUBEROUS ROOTED PLANTS

AGAPANTHUS. African Lily.

Agapanthus umbellatus. "African Lily." S. Africa. A fine plant, with long, rather fleshy leaves, and bearing a many-flowered umbel; flowers of a bright blue color.

AMARYLLIS.

Amaryllis Belladonna. Large, very fragrant white flowers, richly flushed with rosy red.

Amaryllis Johnsoni. "Garden Hybrid." Wine-red, striped white; flowers very large

Amaryllis Vittata Hybrids. Beautifully striped, flaked and feathered varieties.

CALADIUM. Elephant's Ear.

Caladium esculentum. "Elephant's Ear." Hawaii and Fiji Islands. Plant with enormous leaves, growing luxuriantly in very moist situations during the summer months.

CONVALLARIA. Lily of the Valley.

Convallaria majalis. "Lily of the Valley." Europe, Asia, Southern U. S.. A charming plant, with large, green leaves, producing a profusion of delicate, bell-shaped delightfully fragrant flowers in the early spring months.

CYCLAMEN.

Cyclamen latifolium. Greece, So. Syria. A pretty, small plant with round, fleshy leaves, borne on long stems; flowers of various shades of and of peculiar form.

DAHLIA.

Dahlia. Tropical America. We grow a fine assortment of double and single varieties of these elegant, showy plants. The tubers should be taken up in winter in cold countries, but in California they may be left in the ground for years.

GLADIOLUS.

Gladiolus. S. Africa. This class of plants should be cultivated in every garden, as they thrive well in all soils, and the coloring of the flowers is very rich.

GLOXINIA.

Gloxinia. Are fine plants for greenhouse or house decoration. The flowers are broadly trumpet-shaped, are of rich velvety texture and vary in color from white, pink and lavender.

HYACINTH.

Hyacinth. Single and double flowers; blue, white, red and pink.

IRIS.

Iris Germanica. These are neat, robust, hardy, herbaceous, early blooming plants, with large, ornamental flowers of rich and beautifully-blended colors.

Iris Koempferi. "Japanese Iris." This is the well-known beautiful Flag-like flower of Japan displaying a great diversity of color, some of the flowers measuring 10 to 12 inches across. Will grow in almost any soil, but do best in moist situations.

LILIUM. Lily.

Lilium auratum. "Gold-banded Lily." Large, graceful flowers of a delicate ivory white color, thickly studded with chocolate crimson spots and striped through the center a golden yellow.

Lilium longiflorum eximium Harrisii. "Easter Lily." Long white flowers; very fragrant.

Lilium speciosum album. Large white flower of great substance with greenish band through center of each petal.

Lilium speciosum rubrum. White, heavily spotted with rich crimson.

NARCISSUS.

Narcissus. We have a choice collection of these fragrant, winter-blooming plants.

POLIANTHES. Tuberose.

Polianthes tuberosa. "Tuberose." These deliciously fragrant plants should be in every garden. California is particularly adapted to their successful culture.

RICHARDIA. Calla Lily.

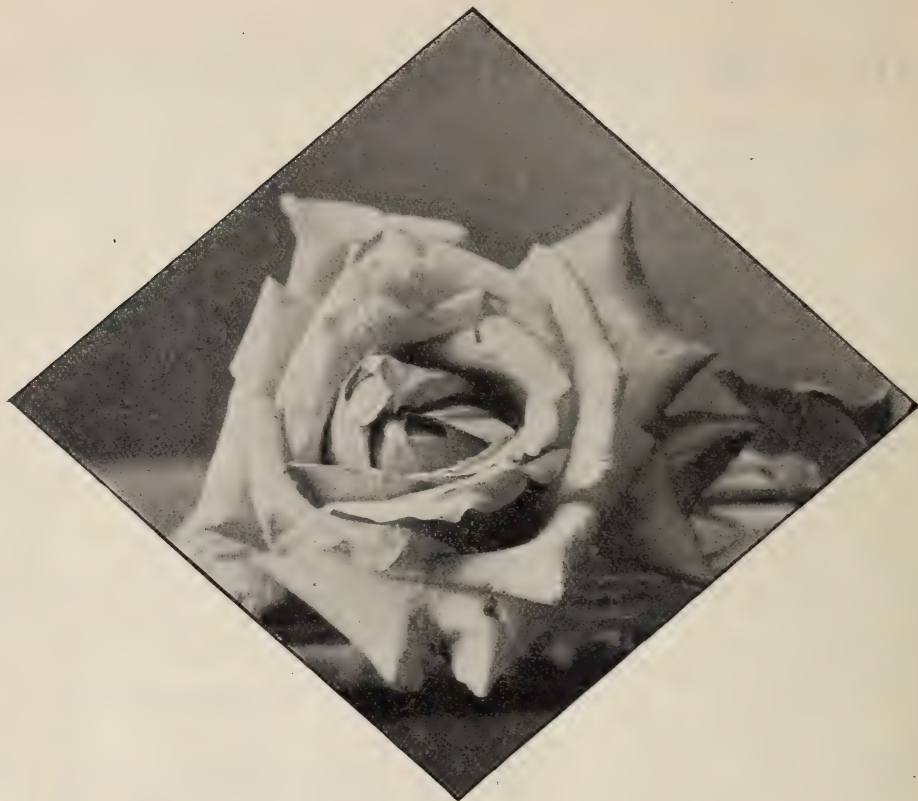
Richardia Africana. "Calla Lily." "Lily of the Nile." A handsome plant with rich dark green foliage and pure white flowers.

Richardia alba maculata. "Spotted Calla." Foliage spotted white; flowers smaller than the common Calla; hardy.

TULIPA. Tulip.

Tulipa. "Tulips." Our collection comprises the best of imported bulbs.

Eucalyptus trees in variety are quite a specialty with us, and since they do well in all sections of the San Joaquin valley, their planting is to be commended. For fuel purposes, wind breaks, and even for timber, they possess an economic value of the first importance.



Maman Cochet. See page 131.

THE ROSE

Among all the flowering shrubs that grace the garden or add to the beauty of hall or conservatory, none can compare to the rose. Of diverse color and character of foliage, of endless design and color of blooms, it lends itself to a wider range of decoration than any other single group of plants, being equally desirable as pot plants, garden culture, and for cut flowers. When to these qualifications are added ease of culture and quick and ample responses in flowers, it is explained why the rose has been aptly termed, "The Queen of Flowers." In our collection of flowering and ornamental shrubs, it occupies first place; hence we have been careful to always have on hand a large stock of only the better vigorous plants, and only those sorts producing freely of blooms possessing good substance and strikingly individual characteristics; we have aimed to list only those sorts known to be hardy, free bloomers and possessing beauty of flowers. All our roses are field grown, thus insuring plants of strong constitution and robust growth. Our large assortment is well calculated to meet every want of the rose planter, both as to quality of bloom, as well as soil and climate.

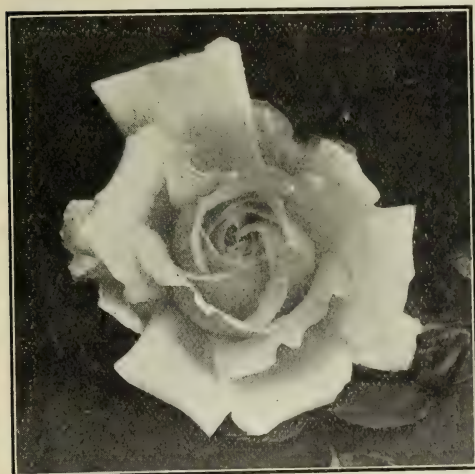
Some objections have been expressed to budded roses, owing to the fact that plants are apt to sucker. This is almost invariably due to the fact that the plant when set out was not planted sufficiently deep to submerge the junction with the bud under ground. If planters will observe to do this, much of this difficulty will be removed. Nevertheless, and in spite of this precaution, the budded roses will often sucker, owing to the vigor of the root or the richness of the soil. These shoots or suckers are easily distinguished by their rampant growth and thorny and coarse like appearance. These should be removed as fast as they appear. Obviously, those varieties known to be delicate or slow growers are usually budded to stronger root stalks, which stimulate and accelerate the growth of the plant.

PLANTING AND PRUNING.

The best season of the year for planting roses is from January 1 to March 15, with the recommendation in favor of early planting—always to secure the best results. In planting, the same care should be observed as with any other tree or plant, the ground should be spaded thoroughly, and if any well rotted manure is available, it should be worked in the soil. Dig the hole large enough

to receive the roots. Prune the top, cutting back the branches at least one-half, and thinning out those that are too thick. The roots should also be cut back a third, and all bruised roots removed. After planting settle the soil around the plant by watering freely.

No definite rule can be laid down for pruning roses, except that the Teas do not require as severe pruning as the Hybrid Perpetuals. A thinning out and shortening in of branches should be done each season to make the plants flower freely. When the roses have stopped blooming in the early



Souvenir de President Carnot. See page 133.

summer, the faded buds should be cut and the plants should be given a light pruning, or more correctly a pinching back, which will have the effect of making them respond with a bounteous bloom in the fall.

The reader will notice that we have arranged this list in alphabetical order, irrespective of the class or group to which a variety may belong. To afford the novice, however, means of distinguishing one class from another, we have prepared the following explanatory paragraphs.

BANKSIAS.

Roses of this class have very small flowers, and bloom in clusters; are vigorous climbers and very useful for covering trellises, etc. With their small but most abundant flowers, interspersed among the smooth, glossy green foliage, they form an object of great beauty; require very little care when once established.

BENGALS OR CHINAS.

Natives of China. Of moderate growth and not very fragrant. The foliage and flowers are small. They are valuable for borders on account of their compact growth and the profusion of brilliant crimson buds they produce.

BOURBONS.

The varieties of this class differ greatly in their general characteristics; those of moderate growth require close pruning. They are constant bloomers; the flowers are generally of light shade; the foliage is leathery, rich and luxuriant; and they are at their best in the Autumn.

HYBRID NOISETTES.

These roses are always in bloom, and are very valuable; should be in every collection, where they are sure to give satisfaction.

HYBRID PERPETUALS.

These constitute a very striking and distinct family of roses, easily distinguished from all others by their luxuriant foliage, prodigious blooms and vigor of growth. They are perfectly hardy and of very robust habit, thriving with little care or attention. The more vigorous growers require close pruning. Although styled perpetual bloomers, they are not so in reality, blooming only in the Spring and Fall. As a class they are deservedly popular, varying in color from snowiest white to the deepest crimson.

HYBRID TEA.

The roses in this group are much stronger growers than the preceding and combine free flowering qualities with the rich color of the Hybrid Perpetuals.

JAPANS OR RUGOSAS.

Of Japanese origin. The flowers are mostly single; plant highly ornamental on account of its good habit and beautiful glossy foliage.

MISCELLANEOUS.

Under this head we have placed a number of different varieties, belonging to separate classes, as there is not enough of any one class to warrant separate classification.

MOSES.

The Moss Rose originated in Switzerland. Sepals are covered with moss-like glands; unsurpassed as buds. Should be heavily pruned in the winter.

NOISETTES OR CHAMPNEYS.

This class of roses is of American origin. The group is of vigorous growth and the flowers have a tendency to grow in clusters. With a few exceptions all the varieties are vigorous climbers, and their rich bright green foliage, combined with the delicate tinted flowers, render them most attractive for this purpose.

POLYANTHAS.

This is a new group from Japan. They are ever-blooming; flowers are small but exquisitely formed, and are borne on slender stems in paniced clusters. Growing low and compact, they are very desirable for edging.



Augustine Guinoiseau, or White La France. Hybrid Tea. See page 127.

PRAIRIES.

This is a very distinct class, remarkable for its hardiness. The leaves are large, rather rough, and of a rich dark green color. They grow very rapidly, exceeding in this respect any other variety, and are excellent for covering walls, and old buildings; bloom in large clusters after all common roses are gone and present a very striking appearance.

STANDARD ROSES.

Commonly known as Tree Roses, are budded on a thrifty stalk of the vigorous wild rose from 3 to 4 feet from the ground. Care should be taken to wrap this stem the first season with paper or burlap to prevent sunburn. The pruning knife used with judgment to cut back straggling branches and retain a good shape to the plant, will well repay the trouble.

TEA OR EVER-BLOOMING.

This is one of the most important groups of roses and on account of their free flowering qualities, exquisite fragrance, combined with their delicate tints, and fine form, are deservedly popular. They require more care and attention than any of the other classes and should not be pruned too closely.

NEW VARIETIES.

Baby Rambler. "Mme. Norbert Levavasseur." A cross between Crimson Rambler and one of the Polyantha sorts, but instead of climbing it forms a dark, compact bush, not over 11 inches high, loaded down with heavy clusters of bright crimson flowers similar to Crimson Rambler. It blooms from early Spring until late in the Fall and is destined to become one of the most popular varieties for bed-

ding. No admirer of roses should be without it.

Betty. (Hybrid Tea.) Introduced by Messrs. Dickson & Sons, Belfast, Ireland, and regarded by them as the grandest of the many valuable and new roses of merit, which they have originated. It stands in the same class as the Belle Siebrecht and Killarney, with the exception that it is a more robust grower and is truly of a unique color, being of a ruddy gold, overspread with golden yellow. It is deliciously perfumed, extremely large and of glorious form and blooms continuously from early Spring till late in the Fall. It is an extremely vigorous grower and is regarded by rose connoisseurs as the greatest novelty of recent introduction.



Madame Caroline Testout. See page 130.

Climbing Bridesmaid. (Tea.) Identical with its well-known, popular and unrivaled parent, the Bridesmaid with the exception, that it is a thrifty climber; in every respect a grand rose.

Climbing Meteor. (Hybrid Tea.) Climbing Meteor is the acme of all red climbing roses. It is a free, persistent bloomer and will make a growth of from ten to fifteen feet in a season. At the head of

the list of all roses for summer blooming, loaded with deep, rich red flowers all the time.

Climbing Mademoiselle Cecil Brunner. (Polyantha.) An exact counterpart of the great favorite bush rose of the same name, except that it is a very much stronger grower. Flowers perfectly double, rosy pink, petals in bud daintily reflexed. Delightfully fragrant and in every respect a most exquisite rose.

Climbing Madame Caroline Testout. (Hybrid Tea.) This most wonderful rose is identical with that most beautiful and very free flowering rose Madame Caroline Testout, except that it is a most vigorous climber. Color bright clear pink.

Empress of China. (Miscellaneous.) A very hardy, free-flowering climbing rose, of good size; blooming in clusters; color soft red, becoming lighter as the flowers open; an entirely rank and vigorous grower.

Enchantress. (Tea.) A free-flowering rose, of vigorous growth and fine foliage; color creamy-white, slightly tinted with buff in center.

Etoile de France. (Hybrid Tea.) Received a gold medal in France and the introducer, J. Pernet Ducher, the originator of so many grand roses, claims that it is one of the finest roses ever sent out. The flowers are very large and borne on good, long stiff stems; color a lovely shade of clear, red-crimson velvet; very fragrant and keeps well. A superb rose and sure to be a great favorite.

Franz Deegen. (Hybrid Tea.) This rose will certainly prove worthy of extensive cultivation and will win its way into favor wherever planted. In color it resembles the popular Perle des Jardins, the inner petals approaching more of an orange shade. It throws up very strong canes and the flowers stand up erect on the stems and are of superb form.

Frau Karl Druschki. (Hybrid Perpetual.) Pure snow white, long pointed buds, large full flowers, free and constant. Equaled by no other H. P.

Gruss An Teplitz. (Bourbon.) "Crimson Hermosa." A rose that every florist should have, inasmuch as it is easy to propagate and a color that is always in demand. When first opened it is a rich dark crimson quickly changing to a velvety fiery red. A strong grower, blooms continuously, flowers good size and delightfully fragrant.

Helen Gould, or Balduin. (Hybrid Perpetual.) Not only ourselves, but the general public, believe this rose to be one of the best ever-blooming roses ever introduced. Its color is quite attractive, being a soft intense carmine, with shades of cerise and sulferino, very much the color of American Beauty. Blooms very freely.

Hugh Dickson or J. B. Clark. (Hybrid Perpetual.) A vigorous grower, with handsome foliage; deep red on young shoots changing to deep green with age; a free perpetual bloomer; color brilliant crimson, shaded scarlet; very large and of exquisite form with large smooth petals. Flowers very often $7\frac{1}{2}$ inches in diameter by 5 inches deep. Certainly a most beautiful rose.

Ivory. (Tea.) A most valuable addition to our list of Roses for cut flower purposes. A "sport" from the fine old variety Golden Gate. "Ivory" embodies all the good points of its parent, size, freedom of bloom, strong, vigorous, healthy growth with a pure white color, which makes it an invaluable acquisition to the list of forcing roses. It has received highest honors wherever shown.

Killarney. The great Irish rose. A charming rose of robust growth, color bright carmine, pink marbled in creamy white; petals extremely large and of a texture that makes it one of the most lasting of roses. Has an extremely long bud produced on a long, stiff stem. A favorite rose for florists or for planting in the open.

Philadelphia Rambler. It differs from Crimson Rambler in these important points: the color is deeper and more intense; the flowers are perfectly double to the center, very durable and of fine substance; the blooms retain their freshness for a much longer period. It is fully as free a grower and is a very resplendent bloomer.

Richmond. (Hybrid Tea.) One of the best red roses yet produced, and a perfect forcing rose. It comes to perfection with very little care. It is a constant bloomer, very fragrant, with a color approaching a deep scarlet in tone. It has long pointed buds on tall straight stems, with elegant dark foliage. A superb rose in every sense of the word.

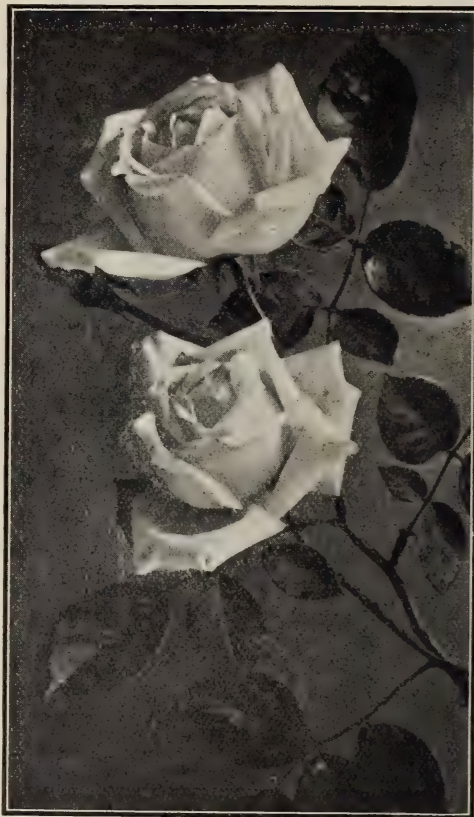
Rosalind Orr. (Hybrid Tea.) This new pink seedling of bright pure scarlet pink, like a perfect Lawson carnation, with pointed buds and petals beautifully rolled; produced on long, slender stems, has qualities which places it in the front rank among the many new and grand roses of recent introduction.

Soleil de'Or. (Miscellaneous.) A hybrid of Persian Yellow. Flowers large, globular, varying in color from gold to reddish gold, shaded with narsturtium red. A very striking novelty.

White Maman Cochet. The flowers are of enormous size, remarkably round and full, pure, clear snowy white throughout when grown under glass; but when grown out of doors it pinks like Bride, but the pink only adds to its beauty. It is by far the

finest and most reliable bedding rose yet produced. Its buds are long and pointed, with petals daintly reflexed. It is, in other words, an exact counterpart of the famous Maman Cochet in everything except color.

Yellow Cochet. "Madame Derepas Matrat." (Tea.) This rose ranks in beauty of form very favorably with its namesakes, the White and Pink Cochets. Blooms are large, perfectly double and of splendid form. The color is of an exquisite sulphur yellow, changing to a delightful rose as the flower gets aged.



La France. See page 130.

GENERAL COLLECTION

Abel Carriere. (Hybrid Perpetual.) Purple crimson, fiery red center; very double and fine.

Admiral Dewey. A strong grower, semi-double flowers of the Testout type; white faintly tinged with pink. A most excellent rose of recent introduction.

Agrippina. (Bengal.) Fine, rich crimson; moderately double; fine in bud; a valuable bedding variety; is not affected by the heat, and blooms profusely during the entire summer; as a hedge rose it cannot be surpassed.

Alice Leroy. (Moss.) Rich glossy pink; very sweet.

American Beauty. (Hybrid Perpetual.)

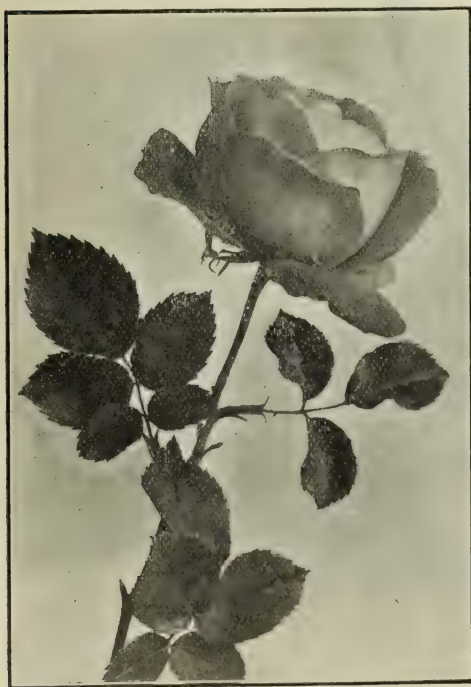
Color rosy-crimson, exquisitely shaded and very handsome; extra large full flowers, exceedingly sweet; makes magnificent buds; is a constant bloomer and a grand forcing rose.

Annie Marie de Montravel. (Polyantha.)

Very small, pure white, double flowers; very sweet scented, and borne in large clusters completely covering the plant.

Antoine Mouton. (Hybrid Perpetual.)

Fine rose, constant bloomer, flower large and very fine in bud; should be in every collection.



Ulrich Brunner. See page 133.

Augustine Guinoiseau. (Hybrid Tea.)

"White La France." A beautiful rose, same form as La France, but pearly white, tinted with fawn. When known, it will be even more popular than La France.

Baltimore Belle. (Prairie.)

Pale blush, be coming nearly white; compact and fine.

Baroness Rothschild. (Hybrid Perpetual.)

Pale bright rose, shaded white; very large and finely formed; flowers borne on erect thick canes, and are closely set in the foliage; very handsome and attractive; one of the best of the Hybrid Perpetuals.

Beauty of Europe. (Tea.)

A vigorous grower and free bloomer; flowers deep yellow, with salmon fawn center; large and full.

Belle Siebrecht. (Hybrid Tea.)

A superb rose; the buds are beautifully formed, of long tapering shape and when half blown

the petals reflex in a graceful manner; the flowers have great substance and the petals are of heavy texture; color imperial pink.

Beauty of Stapleford. (Hybrid Tea.)

Color a clear, bright pink, shading to a bright rosy-crimson; it makes large beautiful buds, and is a constant and profuse bloomer.

Black Prince. (Hybrid Perpetual.)

Deep, dark crimson, richly shaded; very globular and good.

Bon Silene. (Tea.)

Very fine in bud; dark crimson rose, often changing to crimson; extensively grown by florists for its highly colored buds.

Bougere. (Tea.)

Flowers extra large; bronze pink, shaded with lilac; a grand rose.

Bridesmaid. (Tea.)

A sport from Catherine Mermet. This new variety has all the good qualities of its parent, but is of a deeper shade of clear bright pink and is a more constant bloomer.

Camoens. (Tea.)

Large flowers; bright China rose, shaded yellow; very pretty in bud; a constant bloomer.

Captain Christy. (Hybrid Perpetual.)

A lovely rose, blooming almost the entire season; very large double buds of a deep flesh color; strong grower and grand foliage; very beautiful and valuable.

Catherine Mermet. (Tea.)

Light flesh-colored; large, full and globular; one of the finest teas; when the flowers are fully expanded they yield a delightful perfume.

Celine Forrestier. (Noisette.)

Deep sulphur-yellow; a very abundant bloomer; a beautiful rose and a vigorous grower.

Charles Lefebre. (Hybrid Perpetual.)

Reddish-crimson, center shaded purple; large and globular; a fine rose.

Cherokee, Double. (Miscellaneous.)

Flowers double; pure white.

Cherokee, Single. (Miscellaneous.)

A beautiful pure white rose, blooming only in spring; not fragrant, but very showy.

Cheshunt Hybrid. (Hybrid Tea.)

Cherry carmine; large, full open flowers; an excellent climbing or pillar rose.

Christine de Noue. (Tea.)

A splendid grower, with bright, deep green foliage; a constant and free bloomer; flowers deep pink, full and fine; a grand forcing rose.

Claire Carnot. (Noisette.)

Fine coppery-yellow, bordered with white and carmine; not very double but exceedingly fine.

Climbing Captain Christy. (Hybrid Perpetual.)

Of climbing habit, flowers same as Captain Christy; a very profuse bloomer; one of the best of the new roses.

Climbing Devonensis. (Tea.)

Creamy white, center sometimes with blush; very large, nearly full; delightfully scented.

Climbing La France. (Hybrid Tea.)

A sport from the La France, resembling it in every particular. A strong rapid grower, producing large delicate, silvery pink flowers in great abundance.



Cherokee, Single. See page 127.

Climbing Hermosa. (Bourbon.) Identical in every way with Hermosa, except that it is a rampant climber. It should be extensively planted on account of its many meritorious qualities.

Climbing Kaiserin Augusta Victoria. (Hybrid Tea.) Said to be the very best climbing white rose of recent introduction; a strong and rapid grower, making shoots fifteen feet in a season; flowers superb, of good texture and substance, extra large; deep and full, very double, and are produced on long stiff stems; buds long and pointed; deliciously fragrant.

Climbing Niphetos. (Tea.) A sport of the Niphetos; flowers identical; a very vigorous climbing plant; a much stronger grower than its parent.

Climbing Perle des Jardins. (Tea.) Same as the Perle des Jardins, except in growth, it being a very vigorous climber.

Climbing White Pet. (Tea.) A strong grower, with handsome, clean foliage, and pure white double flowers, borne in clusters and produced in great profusion.

Climbing Wootton. (Hybrid Tea.) A sport from the famous rose Souvenir de Wootton and identical with it, except that it is a strong, rampant climber, producing in wonderful profusion, its superbly formed flowers, with thick, leathery petals, and deliciously scented; as a climbing rose it will rank among the best.

Cloth of Gold. (Noisette.) Deep yellow center, edges sulphur, very sweet scented; a magnificent variety.

Clothilde Soupert. (Polyantha.) Medium size, very double and beautifully imbricated like an aster; flowers variable; color glowing pink center, shaded to white; red and white flowers often produced on the same plant; one of the most valuable roses of recent introduction.

Comtesse de Frigneuse. (Tea). A beautiful rose, deep golden yellow; flowers extra large and full, with long pointed buds; good grower and bloomer.

Comtesse Riza du Parc. (Tea). A fine variety; color bright coppery rose, tinged and shaded with soft velvety crimson; a profuse bloomer.

Cornelia Cook. (Tea). Pale yellowish-white sometimes tinged with flesh; flowers large and full; a free bloomer, buds of immense size and very double.



Kaiserin Augusta Victoria. See page 130.

Crimson Rambler. (Polyantha). This superb novelty was originally received from Japan. The flowers are produced in great pyramidal panicles or trusses, each carrying from 30 to 40 blooms, the individual flowers measuring about one to one and a half inches in diameter and remaining perfect on the plant upwards of two weeks with the freshness of color unimpaired; the foliage is bright green and glossy, and contrasts finely with the bright crimson of the flowers; for verandas, walls, pillars and fences this rose cannot be excelled; a remarkably vigorous grower, making shoots from 10 to 15 feet long in a season.

Dinsmore. (Hybrid Perpetual). Flowers are large and perfectly double; color rich crimson scarlet; showy and handsome; delightfully fragrant; a very popular rose

Duchess of Albany or Red La France. (Hybrid Tea). A sport from the La France. Resembles that variety, but the bud is

more perfect in contour and the color is of a richer, deeper, more even pink tint; one of the most important of recent acquisitions for forcing or growing in the open air.

Duchesse de Brabant. (Tea). Brilliant rosy pink; globular; standard tea; in every way a charming rose.

Duchess of Edinburgh. (Tea). A very free bloomer; deep rosy crimson, turning lighter; a tea with Bengal blood.

Eliza Sauvage. (Tea). Very large double, globular flowers; color pale yellow to white, with orange center.

Empress of China. (Miscellaneous). A very hardy, free-flowering climbing rose, of good size; blooming in clusters; color soft red, becoming lighter as the flowers open; an entirely rank and vigorous grower.

Empress of India. (Hybrid Perpetual). Dark brownish-crimson; large globular flowers.

Empereur du Maroc. (Hybrid Perpetual). One of the most perfect of the dark roses; color rich velvety maroon, intensely dark.

Enchantress. (Tea). A free-blooming rose, of vigorous growth and fine foliage; color creamy-white, slightly tinted with buff in center.

Etoile de Lyon. (Tea). This is considered one of the finest yellow bedding roses for outside planting; one of the hardiest in the Tea section; blooms freely, and every flower is a gem; equals Marechal Niel in size, on strong bushes; color a deep chrome yellow; a remarkable rose, deserving extensive culture.

General Jacqueminot. (Hybrid Perpetual). Bright shining crimson, very rich and velvety, exceedingly brilliant and handsome; makes magnificent buds; one of the best for open ground and for forcing.

Gloire de Dijon. (Tea). Buff, orange center, very large and double; very early flowering and the hardiest of any of the tea roses; a very popular variety. A good strong climber.

Gloire Lyonnaise. (Hybrid Perpetual). A grand rose. Color a pale shade of cham- ois or salmon yellow, deepest at the center, and sometimes passing to rich creamy-white, finely tinted with orange and fawn; flowers have all the beauty of Tea Roses and are very fragrant.

Gold of Ophir, or Beauty of Glazenwood. (Noisette). A medium-sized rose, blooming in clusters; of a very singular color, entirely different from any other rose known, being a bright coppery-apricot yellow. A grand pillar rose, also known as the San Rafael Rose.

Greville or Seven Sisters. (Prairie). Flowers in large clusters; varies in color from white and crimson.

Hermosa. (Bourbon). An old variety; very double and perfect; color delicate rose; a very abundant bloomer.

Homer. (Tea). Flesh-colored rose, edged with velvety lilac rose; one of the best teas; very vigorous and perfect.

Hon. Edith Gifford. (Tea). White flesh color, slightly tinted with rose; fine form both in bud and when expanded; a grand new rose.

Improved Rainbow. (Tea). It is entirely distinct and far superior to Rainbow. The improved Rainbow is penciled with brightest Gontier color, every petal in every flower and base of petals of a brighter amber color, making a very distinct and charming flower.

James Veitch. (Moss). A very fine bloomer; color dark velvety crimson; one of the best roses.

Jean Pernet. (Tea). Pale sulphur yellow, center deeper; a fine tea.

Kaiserin Augusta Victoria. (Hybrid Tea). This beautiful rose has not only a royal name, but is a royal rose as well; is a grand white rose, blooming continuously, with large petals of best substance, showing no center when fully open; color pure ivory white; one of the finest roses for corsage wear, or any other use to which flowers can be put.

La France. (Hybrid Tea). One of the finest of roses; the color is a most lovely rose, with silvery luster; it is a constant bloomer, and very sweet-scented.

Lamarque. (Noisette). Pure white, with shaded sulphur-yellow center, a magnificent climber and a most popular rose.

La Reine. (Hybrid Perpetual). A good bloomer; color rosy lilac; fragrant; half globular. A standard sort.

Louis Van Houtte. (Hybrid Perpetual). Rich crimson; good globular shape; one of the best dark roses.

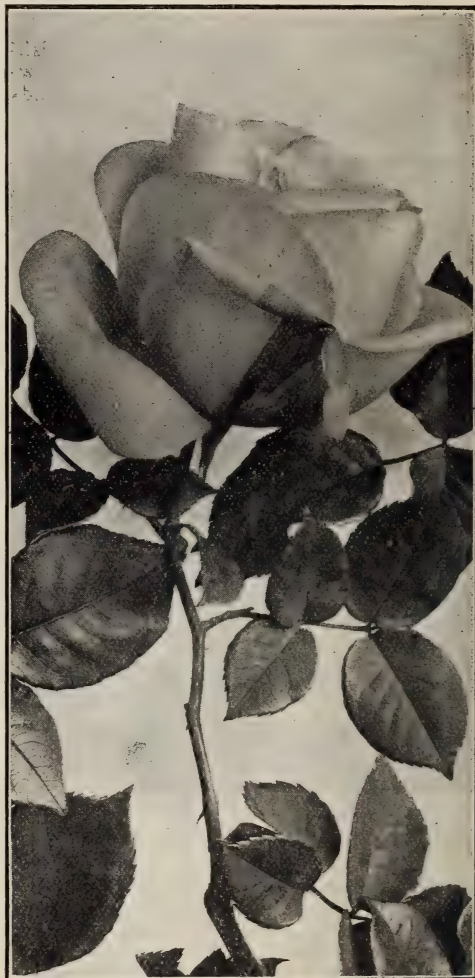
Mabel Morrison. (Hybrid Perpetual). White, sometimes tinged with blush, large and globular; a superb rose.

Madame Alfred Carriere. (Hybrid Noisette). One of the strongest and most vigorous growing roses; very fine in bud; color white, shaded yellow at the center. An exceedingly strong climber.

Madame Angeliue Veysset. (Hybrid Tea). "Striped La France." A grand rose, possessing all the good characteristics of the La France, but differing from it widely in two points. First, it blooms more freely; secondly, it is nicely striped, the variegation being a bright rose on a satin pink back-ground.

Madame Berard. (Tea). A magnificent rose; color rich salmon, tinged with rosy yellow; a strong, vigorous grower and profuse bloomer.

Madame Caroline Testout. (Hybrid Tea). One of the best Hybrid Tea roses up to date. It is clear pink and there is nothing in the rose line that can approach it in color; the flower is as large as Baroness Rothschild and as free as La France; should have a place in every collection.



Improved Rainbow.

Madame Charles Wood. (Hybrid Perpetual). One of the most popular roses; a really ever-blooming rose, of a most brilliant color; should be in every collection; unsurpassed in forming a rose hedge.

Madame Chedanne Guinoisseau. (Tea). A fine deep yellow, beautiful, free flowering sort; buds long and pointed; a valuable and exceedingly beautiful variety.

Madame Cusin. (Tea). Crimson, with light center, slightly tinted with violet; medium size, good form; quite distinct.

Madame de Watteville. (Tea). A grand new rose; color salmon white, tinged with carmine, each petal bordered with bright rose, like a tulip; fine perfume and a most prolific bloomer.

Madame Gabriel Luizet. (Hybrid Perpetual). A beautiful large rose, with broad shell-like petals; very double and full and delightfully perfumed; color an exquisite shade of clear coral rose, beautifully suffused with lavender and pearl.

Madame Maurice Kuppenheim. (Tea). Flowers elegantly formed, large, full and double; color pale canary yellow, shaded with rose, sometimes soft rosy flesh; very fragrant.

Madame Plantier. (Miscellaneous). Fine, pure white, blooming in Spring; above medium size; one of the best white roses; very sweet.

Madame Scipion Cochet. (Tea). Beautiful creamy-rose; flowers large, somewhat tulip shaped, quite full and very sweet; handsome and striking; a charming new rose.

Madame Welche. (Tea). Pale yellow, deep coppery center; flowers large and double and of beautiful rounded form.

Mademoiselle Cecile Brunner. (Polyantha). Blooms salmon pink, with deep salmon center, borne in clusters; very small, full and delicately scented; admirable in bud and open flower; a very profuse bloomer.

Maman Cochet. (Tea). One of the finest roses of recent introduction from France; a vigorous grower, with beautiful foliage; the bud is long and pointed, borne on long, stiff stems; color deep rose-pink, the inner petals being a silver-rose, shaded and touched with golden yellow; a beautiful rose.

Marchioness of Londonderry. (Hybrid Perpetual). One of the late introductions of the Messrs. Dickson & Sons, of Newtownards, Ireland. Flowers of great size, measuring five inches across, perfectly formed, and carried on stout stems; color ivory white; petals of great substance, shell-shaped and reflexed; free flowering; highly perfumed; growth vigorous and foliage very handsome; undoubtedly one of the finest roses raised by this firm; awarded the gold medal of the National Rose Society of England.

Marechal Niel. (Noisette). A beautiful deep sulphur-yellow rose; large globular, very full and highly scented; the finest yellow rose in existence.

Margaret Dickson. (Hybrid Perpetual). Of magnificent form; white, with pale flesh center; petals very large; shell-shaped, and of great substance; foliage very large, dark green.

Marie Bauman. (Hybrid Perpetual). Crimson-vermillion, suffused carmine; large, full of exquisite color and form; fragrant; a very beautiful rose.

Marie Van Houtte. (Tea). Canary yellow, with the border of the petals tipped with bright rose; large, full and fine form; a most charming sort and one of the best of its class.

Merveille de Lyon. (Hybrid Perpetual). Flower large, double and perfectly cupped; purest white; a seedling from Baroness Rothschild.

Meteor. (Hybrid Tea). A reliable ever-bloomer of the deepest glowing crimson; flowers very double, and petals slightly recurved; a beautiful open rose, a vigorous grower and very fine bloomer; a grand rose in this climate.

Mignonette. (Polyantha). One of the most lovely and beautiful miniature roses; flowers very small, double; color delicate rose, changing to blush; a strong grower and very free bloomer; very fragrant.



Meteor.

Mrs. Pierpont Morgan. (Tea). A sport from Mad. Cusin, but much superior to it. The long-stemmed buds and flowers are elegantly shaped, fragrant, and of fine substance; color intense bright cerise or rosy pink.

Niphetos. (Tea). Pure white; very large and full; long pointed buds; very free flowering; purest of white roses; very attractive in the bud form.

Papa Gontier. (Tea). A magnificent bold flower; finely formed buds, color brilliant carmine, changing to rose and lilac; in brilliancy of color fully equal to Gen. Jacqueminot; it is delightfully fragrant and is the most popular forcing rose of its color.

Paul Neyron. (Hybrid Perpetual). Deep rose; the largest of all roses; very fine and showy; somewhat fragrant.

Perfection des Blanches. (Hybrid Tea). Flowers large, pure snow-white; a constant bloomer; very double and fragrant.

Perle des Jardins. (Tea.) Very large and full, bright straw, sometimes canary color; very fragrant; one of the best Tea Roses; one of the most popular forcing roses.



Perle des Jardins.

Persian Yellow. (Miscellaneous). The deepest yellow of all roses; should not be pruned.

Pink Soupert. (Polyantha). A seedling from Clothilde Soupert, which it resembles very closely in color, which is a bright, clear pink.

Prairie Queen. (Prairie). Flowers are very large, and of a peculiar globular form; color a bright rosy red, changing to lighter as the flower opens; a strong, rapid grower.

Prince Camille de Rohan or La Rosier. (Hybrid Perpetual). Very dark crimson; one of the best dark roses; unexcelled in every respect.

Queen of Edgely. (Hybrid Perpetual). "Pink American Beauty." A sport from the famous American Beauty, resembling it in every particular, except that the flowers are a beautiful cerise pink. It is a strong vigorous grower and its flowers are produced on vigorous stems. A great rose standing as a new creation with a type distinctly its own.

Reine de Bourbon. (Bourbon). Flowers large, finely formed; very double and fragrant; petals very regularly arranged; color rose slightly tinged with buff.

Reine Marie Henriette. (Hybrid Tea). Large, finely formed flowers; color a beautiful cherry-red; flowers tea-scented; a very pretty and deservedly popular climbing rose.

Reine Olga de Wurtemberg. (Hybrid Tea.) A very strong climber and one of the best for covering porches and trellises; color a rosy-carmine; very pretty in the bud.

Reve d'Or. (Tea). Very similar to Safrano, but climbing; very fine; will grow in almost any soil.

Rubens. (Tea). White, delicately tinted with rose; beautiful in form; a capital grower; a free bloomer; an excellent rose.

Rugosa Alba. (Rugosa). Single, pure white flowers of five petals; highly scented; elegant.

Rugosa Rubra. (Rugosa). Flowers single, of a most beautiful bright rosy crimson, succeeded by large berries of a rich rosy red color, which are a great addition to the ornamental character of the plant.

Safrano. (Tea). A magnificent rose; color, deep fawn, changing to light fawn when fully opened.

Salamander. (Hybrid Perpetual). Bright scarlet crimson; very vivid in summer; very free bloomer; a brilliant and most effective rose.

Senator McNaughton. (Tea). White Perle des Jardins and sport from Perle des Jardins; resembles that grand old rose, excepting in color, which is a delicate creamy-white; the flowers are very large and full and the buds beautifully shaped; foliage dark and glossy.

Snowflake. (Tea). A vigorous grower and by far the most profuse bloomer of the Tea Roses; color pure white; for forcing and as a pot plant, it can not be excelled; a grand rose for floral designs.

Souvenir d'un Ami. (Tea). Standard sort; globular; flowers brilliant rose.

Souvenir de Malmaison. (Bourbon). Clear flesh, edged blush, very large and double; deliciously scented and beautiful.

Souv. de Paul Neyron. (Tea). Creamy white shaded and edged with salmon rose; flowers double, full, very fragrant; free bloomer.

Souvenir de President Carnot. (Hybrid Tea). One of the finest of garden roses; flower is of large size, of exquisite shape, with heavy, thick, shell-like petals, retaining its magnificent shape when full blown; bud long and pointed, borne on stiff, erect stems; color delicate, rosy flesh, shaded a trifle deeper at the center.

Souvenir de Wootton. (Hybrid Tea). A brilliant rose; color magenta red, shaded violet-crimson; flowers large, full and regular, with thick, leathery petals, and delicious tea scent.

Sunset. (Tea). A fine novelty, a sport from Perle des Jardins which it strongly resembles, except in color, which is a remarkable shade of rich golden amber, elegantly tinged and shaded with dark ruddy copper, intensely beautiful, and resembling in color a splendid "after glow;" very fragrant.

The Bride. (Tea). A sport of Catherine Mermet. Pure white, large fine form, very fragrant; free bloomer; buds very full and double; a beautiful rose, and should have a place in every collection.

The Queen. (Tea). A beautiful pure white sport from Souvenir d'un Ami; finely formed buds, showing the center but slightly when open; petals thick, and of good substance; opens well; is very sweet, and has proved to be a valuable acquisition to the list of pure white roses.

Ulrich Brunner. (Hybrid Perpetual). Brilliant cherry-red, a sport of Paul Neyron. Flowers of fine form and substance.

Vick's Caprice. Flowers large, slightly cup-shaped; petals are thick, clear satiny-pink, distinctly striped and dashed with white and bright carmine; makes lovely, elegant shaped buds, which show the stripes and markings to great advantage.

White Banksia. (Banksia). Small, double white flowers, in clusters; very fragrant.

White Baroness. (Hybrid Perpetual). Pure white, sport from Baroness Rothschild; a beautiful rose.

White Bath. (Moss). Large, full and very fragrant; color pure white, sometimes delicately shaded with rosy blush; elegantly mossed and very beautiful.

White Rambler. (Polyantha). A rank grower having the same habit and characteristics as the Crimson Rambler, except that the flowers are white.

Wichuriana. (The Japanese Trailing Rose). This pretty novelty is a most valuable plant for covering embankments, rockeries, etc., and particularly for use in cemeteries; it is a low, trailing species, its stems creeping on the ground almost as closely as the Ivy; foliage small, dark green, lustrous; flowers are produced in July, and are small, single pure white and very fragrant.

Wm. Allen Richardson. (Noisette). Beautiful orange-yellow; flowers small; very fine and floriferous.

Williams' Evergreen. (Miscellaneous). A free growing and very hardy climbing rose, blooming in large clusters; flowers white, center rosy flesh; foliage dark shining green, remaining on the plant during a greater part of the winter.

Xavier Olibo. (Hybrid Perpetual). A magnificent rose of fine color; one of the very best; its shade of violet-crimson is not to be found in any other rose; finest of all dark red roses.

Yellow Banksia. (Banksia). Flowers large, but not so fragrant as White Banksia.

Yellow Rambler. (Polyantha). Characteristics identical with the Crimson Rambler and producing flowers in large clusters; blooms are large, full and double, very fragrant and of a decided golden-yellow color; will undoubtedly become the most popular of the Ramblers.



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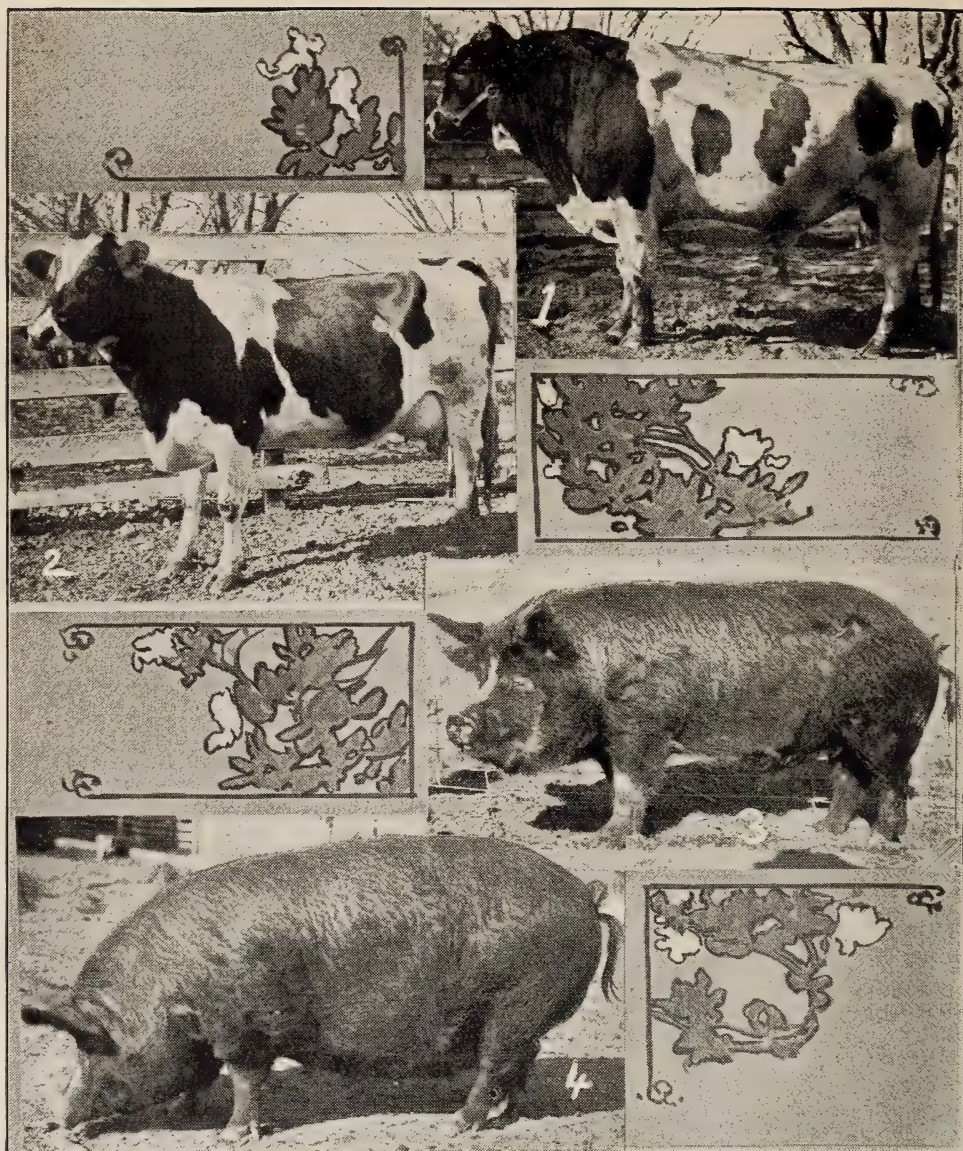
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Banana	54	sistant	65	Pecan	36
Blackberries	69	Guavas	54	Persimmons	52
Bringing an Orchard or		Hickory	35	Pistachio	37
vineyard into Bearing	13	Hop Roots	71	Plum	26
Butternut	35	Hovenia Dulcis	55	Pomegranates	53
Carob	54	How to Prepare Trees for		Pomelos	52
Cherimoyer or Custard		Planting	13	Prune	28
Apple	54	Japanese-Chinese Fruits	55	Pruning Trees for Plant-	
Cherry	24	Jujube	55	ing	17
Chestnut	35	Lemons	51	Quince	34
Citron	52	Limes	52	Raspberries	69
Citrus Fruits	49	Logan Berry	67	Rhubarb	71
Citrus Nursery	9	Loquat	55	Roeding Place	7
Currants	69	Lychee	55	Small Fruits	67
Deciduous Nursery	7	Mammoth Blackberry	67	Somewhat Personal in	
Dewberry	69	Main Office	11	Tone	7
Elaeagnus	54	Medlar	55	Strawberries	70
Esculent Roots	70	Miscellaneous Fruits	54	The Foreword	3
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Figs	40	Nut Fruits	34	Walnut	37
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ORNAMENTAL DEPARTMENT

Abelia Rupestris	100	Bird of Paradise (Poin-		Cherry, Weeping (Ceras-	
Abutilon (Flowering Ma-		ciana)	86	us)	82
ple)	117	Bottle Brush (Metrosid-		Chestnut (Castanea)	74
Acacia	89	eros)	104	Choisya (Mexican Orange)	101
Acalypha	117	Bougainvillea	107	Christmas Berry (Hetero-	
Achania (Turks Cap)	117	Bladdernut (Staphylea)	88	meles)	103
Achyranthes (Iresine)	117	Box (Buxus)	101-110	Chrysanthemum	118
Agapanthus	121	Brachychiton (Sterculia)	99	Clematis	107
Agave, Dracaenas, Yuc-		Broom (Genista)	103	Clerodendron	118
cas, Bamboos	116	Broussonetia	74	Clianthus (Parrot's Bill)	107
Agave	116	Bulbs and Tuberous-		Climbing and Trailing	
Ageratum	117	Rooted Plants	121	Plants	106
Akebia	106	Burning Bush (Evergreen		Coboea	108
Albizia	73	Thorn)	102-110	Cocos	112
Alder (Alnus)	73	Caladium (Elephants Ear)	121	Coleus	118
Almond Flowering (Am-		California Laurel or Bay		Colletia	101
ygdales)	74	Tree (Umbellularia)	100	Coprosma	101
Alternanthera	117	California Big Tree (Se-		Coral Tree (Erythrina)	85
Althea (Rose of Sharon)		quoia Gigantea)	98	Corchorus (Kerria)	84
(Hibiscus)	85	California Evergreen		Coronilla (Crown Vetch)	102
Amaryllis	121	Cherry	101	Corypha	112
Ampelopsis	106	California Nutmeg (Tor-		Cotoneaster	102
Angelica Tree (Aralia)	83	reya)	100	Crab Apple, Flowering	
Anthericum	117	California Redwood (Se-		(Pyrus)	79
Aralia	100	quoia Sempervirens)	98	Crape Myrtle (Lagerstro-	
Araucaria	90	California Tree Poppy		emia)	86
Arbor Vitae (Thuja)	99-111	(Romneya)	120	Crataegus Pyracantha	
Arbutus Unedo (Straw-		Calla Lily (Richardia)	121		102-110
berry tree)	100	Camellia Japonica	101	Cryptomeria (Japan Ce-	
Ardisia	100	Camphor Tree (Cam-		dar)	91
Areca	111	phora)	91	Cuphea	118
Aristolochia (Dutchman's		Canna	118	Cycas	112
pipe)	107	Cape Jasmine (Gardenia)	103	Cyclamen	121
Arundo Donax Variegata	117	Carix	118	Cypress (Cupressus)	92-110
Ash (Fraxinus)	76	Carnation (Dianthus)	118	Cyperus (Umbrella Plant)	118
Ash, Weeping (Fraxinus)	82	Carpenteria Californica	101		
Asparagus	107	Cassia	101	Dahlia	121
Aspidistra	118	Casuarina (Beef wood)	91	Daisy (Bellis)	118
Aucuba (Golddust plant)	101	Catalpa	74	Daphne	102
Azara Microphylla	101	Ceanothus (New Jersey		Datura (Angel Trumpet)	102
Bamboo (Bambusa)	117	Tea)	101	Dasylirion	116
Banana (Musa)	119	Cedar (Cedrus)	91	Deciduous or Bald Cy-	
Bedding-Border Plants	117	Centauria	118	press (Taxodium)	80
Beech (Fagus)	75	Cephalotaxus Fortunei		Deciduous Shrubs	83
Beefwood (Casuarina)	91	(Cluster Flowered		Deciduous Trees	73
Begonia	118	Yew)	91	Deeringia	102
Berberry (Berberis)	83-101	Cestrum	101	Deutzia	84
Bignonia	107	Chaste Tree (Vitex)	89	Diosma (Breath of Hea-	
Birch (Betula)	74	Chamaerops	111	van)	102
Birch, Weeping (Betula)	81	Cherry, Flowering (Cera-		Dogwood (Cornus)	84
Bird Cherry (Cerasus Pa-		sus)	33		
rdus)	75				

Duranta	102	Macrozamia	113	Salvia	120
Dutchman's Pipe (Aristo- lochia)	107	Madrone (Arbutus)	91	Saxifraga	120
Dracaena	116	Magnolia	76	Schinus Molle (Pepper Tree)	98
Echeveria (Hen and Chickens)	118	Magnolia Grandiflora	97	Sciadopitys (Umbrella Pine)	98
Elaeagnus	102	Mahonia	104	Seaforthia	114
Elder (Sambucus)	87	Maiden Hair Tree (Salis- buria)	80	Sequoia Gigantea (Calif. Big Tree)	98
Elms (Ulmus)	81	Mandevilla (Chili Jas- mine)	109	Sequoia sempervirens (Calif. Redwood)	98
Elms, Weeping (Ulmus)	83	Manettia	109	Siberian Pea Tree (Car- agana)	74
Empress Tree (Paulow- nia)	78	Manzanita (Arctostaphy- los)	100	Silk Vine (Periploca)	109
Erythraea	112	Maples (Acer)	73	Smilax (Asparagus)	109
Escallonia	102	Marguerite (Chrysanthem- um)	118	Smoke Tree (Rhus)	87
Eucalyptus (Gum Tree)	93	Maurandia	109	Snail Vine (Phaseolus)	109
Eugenia (Brush Cherry)	102	Melaleuca	104	Snowball (Viburnum)	89
Eulalia	118	Metrosideros (Bottle Brush)	104	Snowberry (Symphori- carpos)	88
Euonymus	103-110	Mint (Mentha)	119	Solanum (Potato Vine)	109
Evergreen Shrubs	100	Mock Orange (Philadel- phus)	86	Sollya (Australian Blue- bell)	109
Evergreen Trees	89	Muehlenbeckia	109	Sophora Japonica (Japan Pagoda Tree)	80
Fabiana	103	Mountain Ash (Sorbus)	80	Sophora, Weeping	83
Fern	118	Mulberries (Morus)	77	Spiraea (Meadow Sweet)	87
Ficus Repens	108	Mulberry, Weeping (Mor- us)	88	Spruce (Abies)	89
Forsythia (Golden Bell)	85	Myrtle (Myrtus)	104	Staphylea (Bladder Nut)	88
Fringe Tree (Chionan- thus)	75	Nandina	105	Strawberry Tree (Arbus- tus)	100
Fuchsia	119	Narcissus	121	Strawberry or Spindle Tree (Euonymus)	85
Gardenia (Cape Jasmine)	103	New Zealand Flax (Phor- mium)	119	Sterculia (Bracychiton)	99
Garrya	103	Number of Trees or Plants on an acre	13	Strellitzia (Bird of Para- dise)	120
Geranium	119	Oak (Quercus)	79	Sumach (Rhus)	87
Gladiolus	121	Oak, Cork and Live Quercus)	97	Swainsonia	109
Gloxinia	121	Oleander (Nerium)	105	Sweet Shrub (Calycan- thus)	83
Grevillea (Silk Oak)	95	Ornamental Department	72	Sycamore (Platanus)	78
Gum Tree (Eucalyptus)	93	Palms	111	Tamarisk (Tamarix)	89
Habrothamnus (Coral Plant)	103	Pampas Grass (Gyner- ium)	119	Taxus (Yew)	99
Hackberry (Celtis)	75	Pandanus	116	Tecoma (Trumpet Vine)	110
Hawthorn (Crataegus)	75	Pansies (Viola Tricolor)	120	Teucrium	106
Hardenbergia	108	Parkinsonia aculeata	97	Texas Umbrella (Melia)	77
Heath (Erica)	102	Passion Vine (Passiflora)	109	Thorn, Weeping (Cra- taegus)	82
Hedge Plants	110	Paulownia (Empress Tree)	78	Thuyopsis (Nootka Sound Cypress)	100
Hedysarum	108	Peach, Flowering (Persica)	78	Thyme (Thymus)	120
Heliotrope	119	Pelargonium	119	Torreya	100
Hibiscus	119	Peony-Herbaceous	119	Tradescantia (Wander- ing Jew)	120
Holly (Ilex)	95	Pepper Tree (Schinus molle)	98	Tree Peony (Paeonia)	86
Hollyhocks	117	Periploca (Silk Vine)	109	Tritoma Uvaria (Red Hot Poker)	120
Honey Locust (Gleditsch- ia)	76	Periwinkle (Vinca)	110	Tuberose (Polianthes)	121
Honeysuckle (Lonicera)	108	Persimmon (Diospiros)	75	Tulip (Tulipa)	121
Horn Beam (Carpinus)	74-110	Petasites	119	Tulip Tree (Lirioden- dron)	76
Horse Chestnut (Aescu- lus)	73	Petunia	119	Umbrella Pine (Sciaop- itys)	98
Hoya (Wax Plant)	108	Phlox	119	Varnish Tree (Kolreu- teria)	76
Hyacinth	121	Phoenix	113	Verbena	120
Hydrangea	85	Photinia	105	Veronica	106
Hypericum	103	Filea (Artillery Plant)	120	Violet (Viola Odorata)	120
Iris	121	Pine (Pinus)	97	Virginia Creeper (Ampe- lopsis)	106
Ivy (Hedera)	108	Pittosporum	106	Vitis (Turquoise Berry Plant)	110
Jacaranda	96	Plane Tree (Platanus)	78	Walnuts (Juglans)	76
Jasmine (Jasminum)	108	Plum (Prunus)	79	Walnuts, Weeping (Jug- lans)	82
Jubea	112	Plumbago	109	Washingtonia	114
Judas Tree (Cercis)	75	Pogostemon (Patchouli Plant)	120	Weeping Deciduous Trees	81
Juniper (Juniperus)	96	Poinsettia	120	Weigela (Diervilla)	84
Kentia	112	Polygala	106	White Kerria (Rhodoty- pos)	86
Kentucky Coffee Tree (Gymnocladus)	76	Pomegranate, Flowering (Punica)	86-111	Willows (Salix)	80
Kolreuteria	76	Poplar (Populus)	78	Willows, Weeping (Sa- lix)	83
Lantana	108-119	Poplar, Weeping (Popu- lus)	83	Wistaria	110
Lavender (Lavendula)	119	Primula (Primrose)	120	Xanthoceras (Chinese Chestnut)	89
Laurel (Laurus)	103	Privet (Ligustrum)	104-111	Yellow Wood (Cladris- tis)	75
Laurustinus (Viburnum)	106-111	Quince, Flowering (Cy- donia)	84	Yew (Taxus)	99
Lemon Verbena (Lippia)	86	Raphiolepis	106	Yucca	116
Libocedrus (Incense Ce- dar)	96	Redwood (Sequoia)	98		
Ligustrum (Privet)	104-111	Retinospora (Japan Cy- press)	98		
Lilac (Syringa)	88	Rhamnus Alaternus	106		
Lily of the Valley (Con- vallaria)	121	Rhapis	113		
Lillies (Lilium)	121	Roses	111-122		
Linden (Tilia)	80	Rubber Tree (Ficus)	95		
Linden, Weeping (Tilia)	83	Sabal	113		
Lippia (Lawn grass)	119	Salisbury (Maiden Hair Tree)	80		
Liquidambar (Sweet Gum)	76				
Livistonia	112				
Locust (Robinia)	80				
Lobelia	119				
Loquat (Eriobotrya)	93				



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